ORDER NO. VRD-8409-106

Service Manual

Video Cassette Recorder

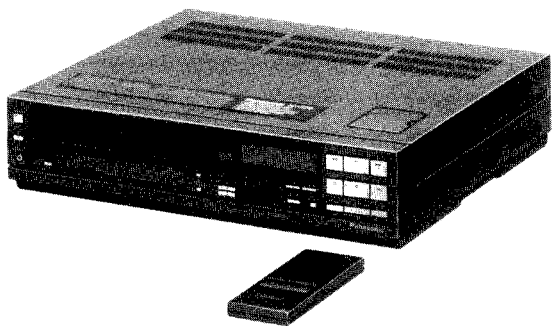
Panasonic VHS Hi-Fi

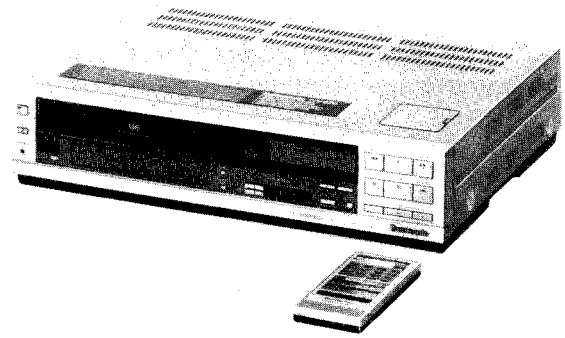
PAL

NV-870 E EG B EO

AK23

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List





SPECIFICATIONS

Power Source:	220V AC 50/60Hz (NV-870E/EG/EO) 240V AC 50/60Hz (NV-870B)
Power Consumption:	Approx. 39 watts
Television System:	CCIR: 625 lines, 50 fields PAL colour signal
Video Recording System:	2 rotary heads, helical scanning system Luminance: FM azimuth recording Colour signal: converted subcarrier phase shift recording
Audio Track:	1 track (Normal), Hi-Fi 2CH
Tape Format:	Tape width 12.7mm high density tape
Tape Speed:	23.39mm/s
Record/Playback Time:	240min. with NV-E240
FF/REW Time:	Less than 5.5min. with NV-E180
Heads:	Video: 2 rotary heads (VR-VL Head) Audio: 1 pair for audio Hi-Fi recording and playback (AR-AL Head) Audio/Control: 1 stationary head Erase: 1 full track erase
Input Level:	Video: VIDEO IN connector (BNC) 1.0Vp-p, 75Ω terminated AV Connector (21P) 1.0Vp-p, 75Ω terminated Audio: LINE IN jack (Phono jack)×2 More than −10dBV, 50kΩ AV Connector (21P) More than −10dBV, 10kΩ
TV Tuners:	VHF CH2~CH12 (NV-870E) VHF CHE2~CHU10 (NV-870EG/EO) UHF CH21~CH69 75Ω unbalanced
Output Level:	Video: VIDEO OUT connector (BNC) 1.0Vp-p, 75Ω terminated AV Connector (21P) 1.0Vp-p, 75Ω terminated Audio: LINE OUT jack (Phono jack)×2 less than −8dBV, 1kΩ AV Connector (21P) less than −6dBV, 1kΩ HEADPHONE jack −26dBV, 8Ω RF Modulated: UHF CH36±4 73±3dBμ 75Ω terminated
Weight:	8.7kg
Dimensions:	430(W)×99(H)×366.5(D)mm
Accessory Supplied:	1 pc. DIN-RF Cable 1 pc. Infra-red Remote Controller 2 pc. Audio Cable 1 pc. M3-M6 Adaptor
Optional Accessories:	Video cassette tape: NV-E240 Approx. 344m, 240min. NV-E180 Approx. 258m, 180min. NV-E120 Approx. 174m, 120min. NV-E60 Approx. 88m, 60min.

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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INTRODUCTION

This service manual contains technical information which will allow service technicians to understand and service the PAL VHS Hi-Fi Video Cassette Recorder Model NV-870E/EG/B/EO.
The NV-870E/EG/B/EO have many special features as shown in page 1-1.
These features in addition to the basic PAL VHS Format make the unit an ideal one for your culture and entertainment.

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REMARKS: NV-870EG West Germany model only

This set can be used for special recording/playback of SECAM colour signal.
SECAM tapes which have been recorded on specified SECAM-VHS recorder can be played back in black-white on this set.

SECTION 1

GENERAL DESCRIPTION

1-1. FEATURES

1. **Hi-Fi Stereo System**

   The revolutionary newly developed hi-fi stereo recording system features two rotary audio heads arranged on the video head cylinder and an FM conversion recording method. The result of this innovative system is superb sound quality with a dynamic range of 80 dB, wide frequency response from 20 Hz to 20 kHz and 0.005% wow and flutter.

2. **Recording and Playback of Stereo, Bilingual and Monaural TV Programmes**

   The new hi-fi stereo system in combination with the built-in multiplex tuner can process audio two-channel as well as monaural signals for both recording and playback. Even if the TV set used is of the mono type, stereo or bilingual sound of recorded programmes or sound of TV programmes, being received on the VTR tuner and played back through the TV set can be reproduced via a connected hi-fi stereo system with external speakers.

3. **Recording and Playback of "Simulcast" Sound**

   This VTR allows recording and playback of the stereo and bilingual sound of TV programmes broadcast via "Simulcast" by connecting an FM tuner to the Audio Input Sockets.

4. **Use as a High-Quality Audio Cassette Recorder**

   The excellent audio quality, outstanding tape economy, continuous 4-hour recording capability, Audio Rec Level Control and Audio Rec Level Meter make this VTR ideal for use as a top-quality audio cassette recorder.

5. **Tape Programme Search System**

   By pressing the Audio Rec Mute Button for at least 4 seconds at the beginning of every recording, this tape programme search system enables fast and automatic locating of the start of the next programme in forward or reverse direction. As soon as the beginning of the programme is found, playback will start immediately. Locating a desired programme is easy and fast.

6. **Super Still, Super Still Advance and Super Fine Slow Playback**

   Super Still, Super Still Advance and Super Fine Slow Playback are possible with superb picture quality free from noise and vibration.

7. **Slim Design and Front Loading System**

   This highly functional design allows loading the video cassette from the front, thus minimizing the space required for the placement.

8. **Multi-Function Display**

   Whenever an operation button is pressed, the activated function is immediately indicated on this easy-to-see display. It shows you at a glance, in what operation mode the VTR is functioning.

9. **Reception of up to 32 TV Stations**

   The built-in tuner in this VTR allows pre-tuning of as many as 32 TV stations. So this VTR can accommodate virtually any increase in available TV programmes in the future.

10. **14-Day, 8-Programme Timer**

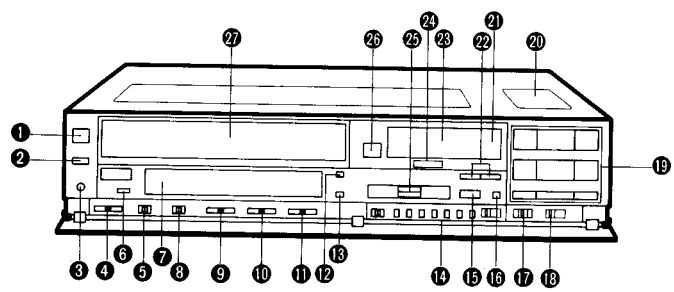
    The built-in timer allows automatic absentee recording of up to 8 TV programmes within 14 days. It is also possible to record a programme which is broadcast at the same time every day or every week.

11. **Infra-red Remote Controller**

    The Infra-red Remote Controller unit allows operating various functions from the comfort of your favourite viewing position.

1-2. CONTROLS AND COMPONENTS

TOP AND FRONT



❶ **VTR ON/OFF Switch**

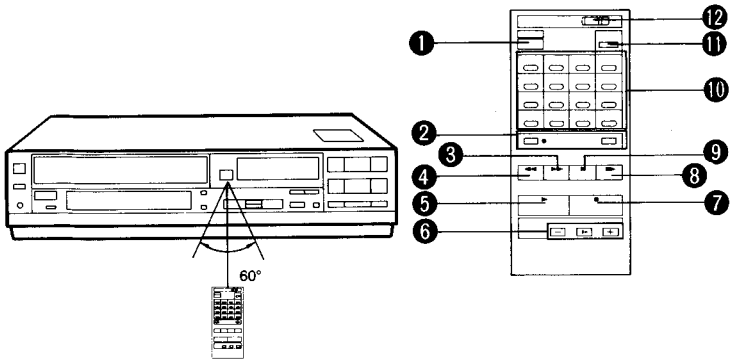
❷ **Eject Button**
Push to this button to remove the cassette.

❸ **Headphones Socket**
When using headphones with M6 plug, use the supplied adaptor plug to connect them to the M3 Headphone Socket of this VTR.

❹ **Headphones Level Control**
When using headphones, the volume level can be adjust with the Headphones Level Control.

❺ **Audio Level Meter Selector Switch**
Selecting this switch, the Audio Level Meter displays the audio recording level or condition of the Hi-Fi tracking.

INFRARED REMOTE CONTROLLER



❶ **VTR On/Off**
For turning the VTR on and off.

❷ **Record Buttons (●)**
To start recording, push the two buttons simultaneously.

❸ **Fast Forward ▶▶ /Cue [▶▶] Button**
When this button is kept pushed during playback, the VTR changes over to the Cue playback mode.

❹ **Rewind ◀◀ /Review [◀◀] Button**
When this button is kept pushed during playback, the VTR changes over to the Review playback mode.

❺ **Play Button (▶)**

❻ **Slow Button (❙▶)**
Push the Slow Button for slow-motion playback at 1/10 of normal speed. The slow playback speed can be varied between 1/30 and 1/5 of normal speed by using the "+" and "−" Buttons.

Note:
If the VTR is left in the slow playback mode for more than 10 minutes, the VTR will automatically switch over to the stop mode, to protect the tape and the video heads.
• Adjust the Slow Tracking Control if necessary.

❼ **Stop Button (■)**

❽ **Still Advance Button (❙❙▶)**

❾ **Pause/Still Button (❙❙)**

❿ **Programme Position (Channel) Selector Buttons**
Example:
To Select channel 2, push the "2 18" button.

⓫ **SHIFT Button**
If you want to select a channel between 17 and 32, first, push the corresponding channel number button (shared with a channel between 1 and 16) and then push this button.
Example: To select channel 23 first push the "7 23" button and then the Shift Button.

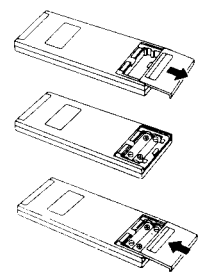
⓬ **Remote Controller On/Off Switch**

Power Source of the Infra-red Remote Controller

■ The Infra-red Remote Controller is powered by two IEC "R03" size batteries. The life of the batteries is about one year, however, it depends on the frequency of use. Inspect and if necessary, replace the batteries once a year.

CAUTION FOR BATTERY REPLACEMENT
• Load the new batteries with their polarities (⊕ and ⊖) aligned correctly.
• Do not heat, disassemble or short-circuit the old batteries.
• If you do not intend to use the Remote Controller for a long period of time, remove the batteries and store them in a cool and dry place.
• Remove spent batteries immediately and dispose of them.
• Do not use an old and a new battery together. (Also never use an alkaline battery with a manganese battery.)

Load the batteries as follows:



1. Remove the battery compartment lid.
2. Place two batteries in the battery compartment as indicated inside the battery compartment.
3. Replace the lid.

Note:
• The infrared beam should be transmitted directly to the Infra-red Remote Control Receiver or the front of the VTR.
• Direct sunlight may interfere with the beam.
• The lightsensing angle of the Infra-red Remote Control Receiver window in the VTR is about 60°.
• The unit should be used within a range of about 7 meters from the front to the VTR.

SECTION 2

ADJUSTMENT PROCEDURE

2-1. MECHANICAL ADJUSTMENT PROCEDURES

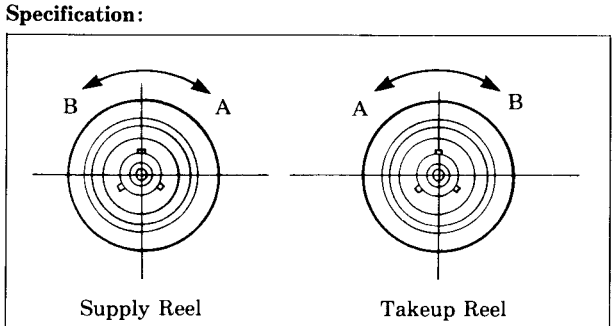
The model NV-870 use the D-1 Mechanical Chassis. Please refer to the Service Manual D-1 Chassis (Order No. VRD-8310-490) except the confirmation and adjustment as shown below.

2-1-1. CONFIRMATION OF BRAKE TORQUE
2-1-2. CONFIRMATION OF TAKE-UP TORQUE
2-1-3. ADJUSTMENT OF THE FG GAP

2-1-1. CONFIRMATION OF BRAKE TORQUE

* **Equipment Required:**
  Torque Gauge (VFK0133)
  Adaptor for Gauge (VFK0134)

* **Specification:**



	A	B
Takeup	more than 400 g-cm	95 ~ 185 g-cm
Supply	more than 400 g-cm	70 ~ 150 g-cm

Fig. 1 Spec. of Brake Torque

Note:

Adjustment procedure is the same as the Service manual D-1 Chassis item 1-4. Please refer to the Service Manual D-1 Chassis (Order No. VRD-8310-490).

2-1-2. CONFIRMATION OF TAKE-UP TORQUE

* **Equipment Required:**
  Torque Gauge (VFK0133)
  Adaptor for Gauge (VFK0134)

* **Specification:**
  PLAY mode ..... 105 ~ 145 g-cm
  FF mode ..... more than 350 g-cm
  REW mode ..... more than 350 g-cm

Note:

Adjustment procedure is the same as the Service Manual D-1 Chassis item 1-5. Please refer to the Service Manual D-1 Chassis (Order No. VRD-8310-490).

2-1-3. ADJUSTMENT OF THE FG GAP

* **Equipment Required:**
  Fine Adjustment Screwdriver (VFK0136)

* **Specification:** 0.16 ± 0.04 mm

Notes:

1. In stead of this method, the cover page of this volume can be alternative because the thickness is approx. 0.17 mm.
2. Do not touch the circumferential surface of roter with any tool, and keep any magnetizable material away from the rotor magnet.
3. Adjustment procedure is the same as the service Manual D-1 chassis item 1-16. Please refer to the service Manual D-1 Chassis (Order No. VRD-8310-490).

2-2. DISASSEMBLY METHOD

2-2-1. DISASSEMBLY FLOWCHART

This flowchart indicates disassembly items of the cabinet parts and P.C. Boards in order to find the item(s) necessary for servicing.
When reassembling, perform the step(s) in the reverse order.

Note:

When removing the Front Panel, work with care not for breaking the locking portions of the panel.

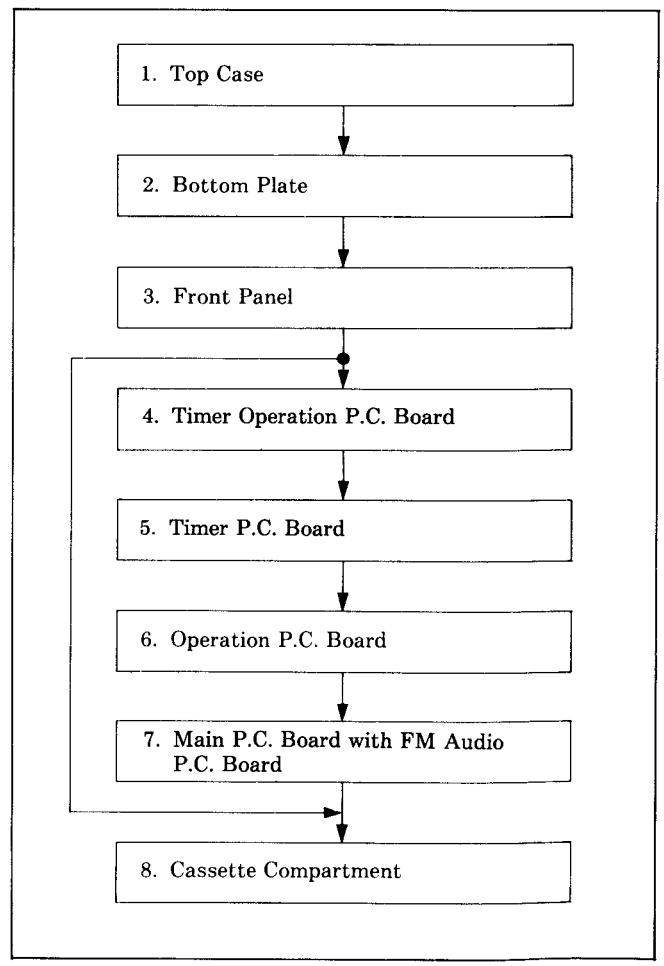


Fig. 2

2-2-2. DETAILED DISASSEMBLY METHOD

1. Removal of Top Case

Unscrew 4 screws (A). Then carefully lift the rear of the case to remove.

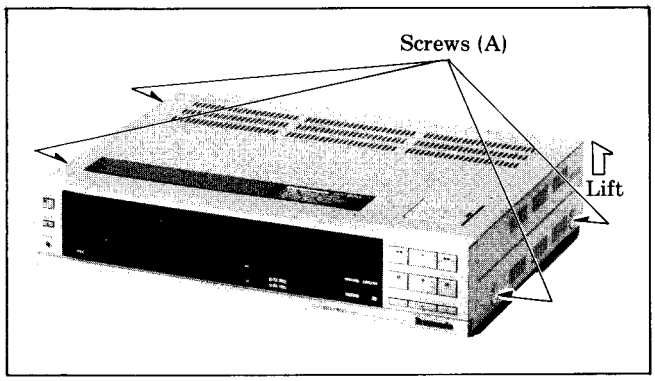


Fig. 3

2. Removal of Bottom Plate

Place the deck upside down so the bottom side face upwrd. Then unscrew 8 screws (B) to remove.

Note:

Place the cushion under the deck for not being damaged the top portion of the deck.

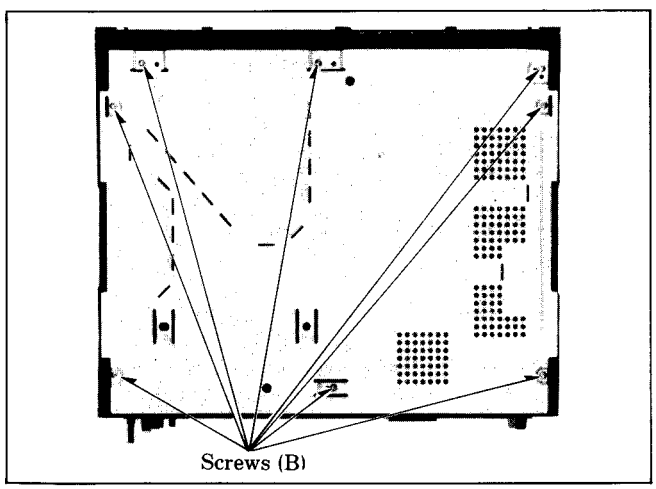


Fig. 4

3. Removal of Front Panel

Remove 3 screws (C) and unlock the 6 locking portions (D). Then hold the top portion of the panel and turn it toward the front side of the deck to remove, and disconnect the headphone jack connector P6507 from the Operation P.C. Board.

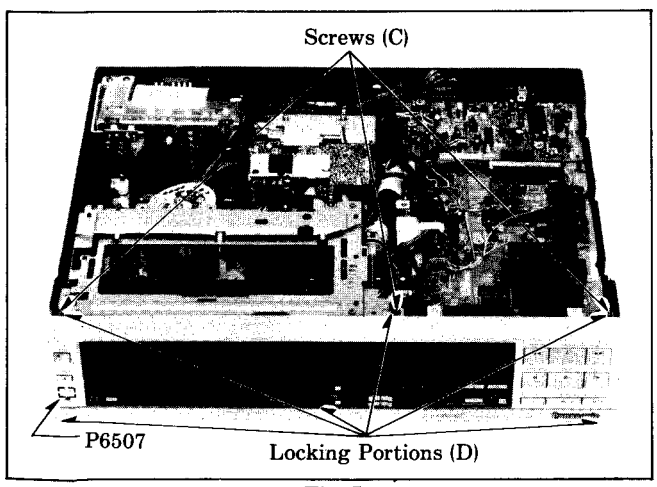


Fig. 5

4. Removal of Timer Operation P.C. Board

Disconnect the connector P6508 from the Timer Operation P.C. Board.

Unscrew 3 screws (E) and unlock 2 locking portions (F). Then hold the bottom portion of the Timer operation P.C. Board and turn it upward.

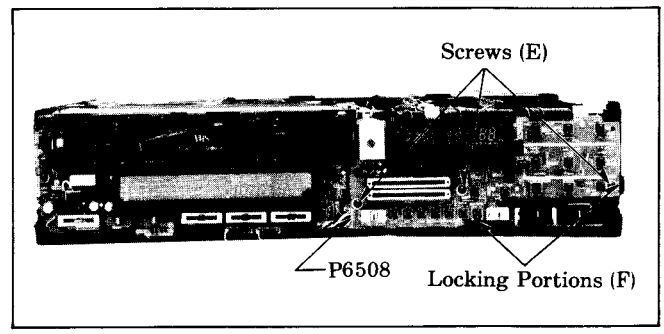


Fig. 6

5. Removal of Timer P.C. Board

Unlock 2 locking Portions (G) and turn Timer P.C. Board toward the left side of the deck.

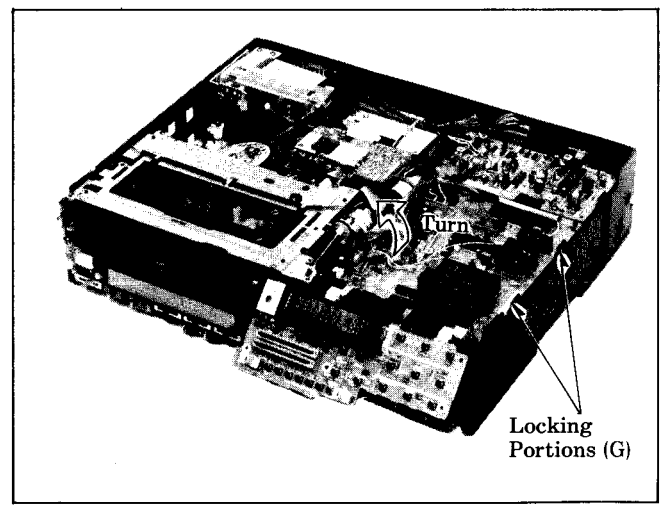


Fig. 7

6. Removal of Operation P.C. Board

Unscrew 3 screws (H) and 4 locking portions (I) to remove the P.C. Board.

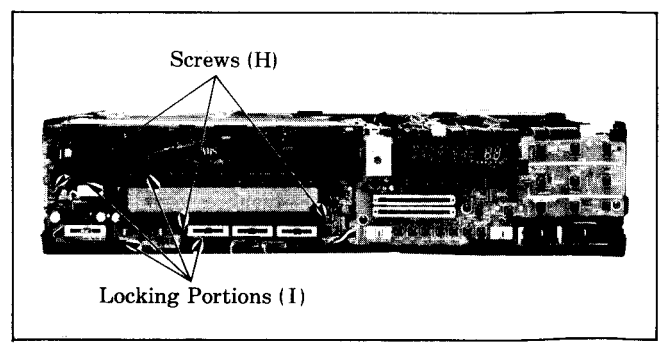


Fig. 8

7. Removal of Main P.C. Board with FM Audio P.C. Board

Unscrew 2 screws (J) and unlock 2 locking portions (K). Then open the Main P.C. Board with FM Audio P.C. Board.

2-2-2. DETAILED DISASSEMBLY METHOD

1. Removal of Top Case

Unscrew 4 screws (A). Then carefully lift the rear of the case to remove.

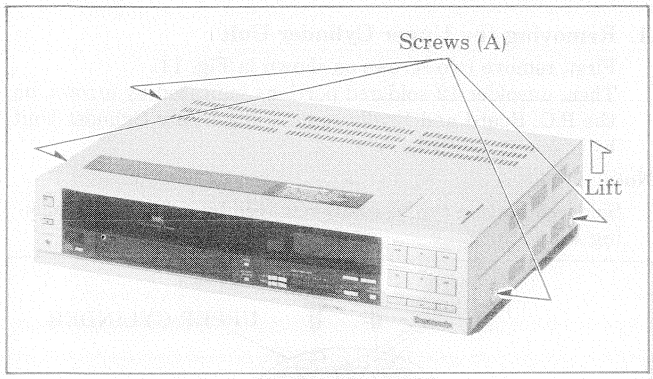


Fig. 3

2. Removal of Bottom Plate

Place the deck upside down so the bottom side face upwrd. Then unscrew 8 screws (B) to remove.

Note:

Place the cushion under the deck for not being damaged the top portion of the deck.

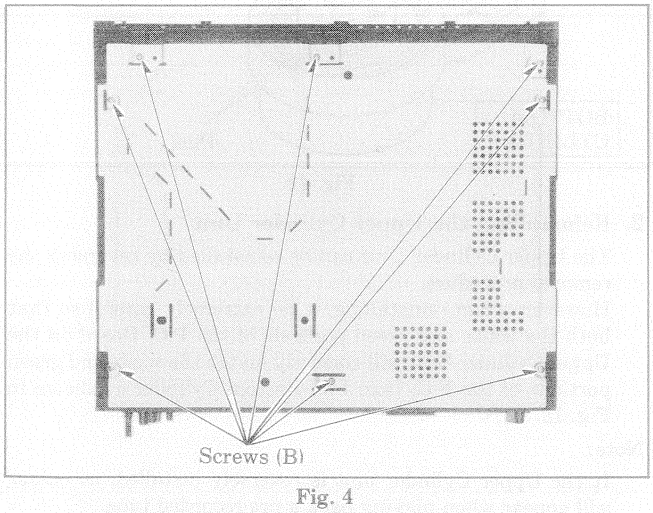


Fig. 4

3. Removal of Front Panel

Remove 3 screws (C) and unlock the 6 locking portions (D). Then hold the top portion of the panel and turn it toward the front side of the deck to remove, and disconnect the head-phone jack connector P6507 from the Operation P.C. Board.

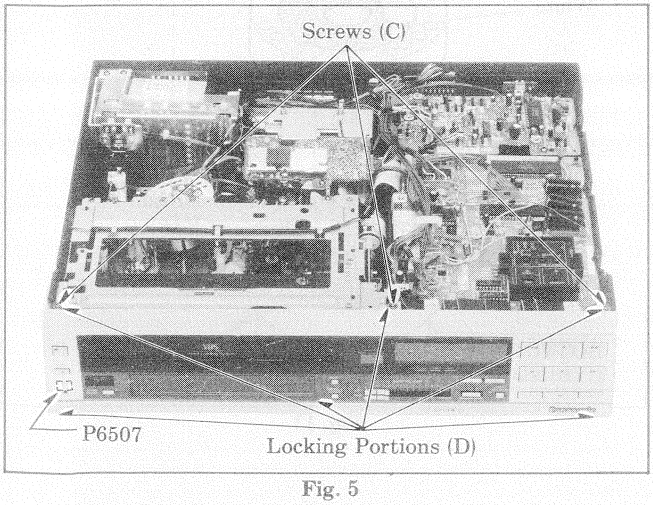


Fig. 5

4. Removal of Timer Operation P.C. Board

Disconnect the connector P6508 from the Timer Operation P.C. Board.

Unscrew 3 screws (E) and unlock 2 locking portions (F). Then hold the bottom portion of the Timer operation P.C. Board and turn it upward.

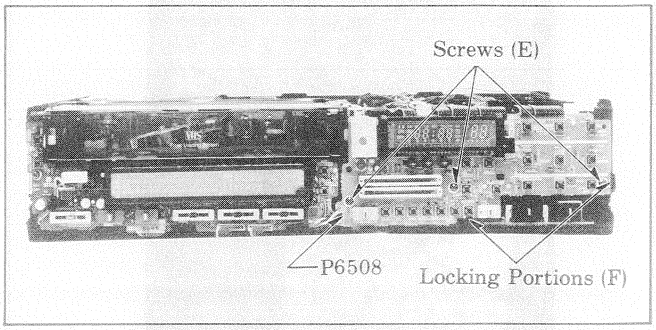


Fig. 6

5. Removal of Timer P.C. Board

Unlock 2 locking Portions (G) and turn Timer P.C. Board toward the left side of the deck.

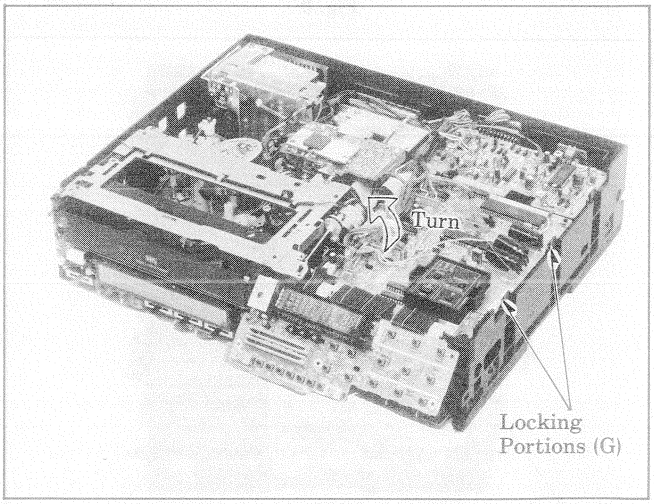


Fig. 7

6. Removal of Operation P.C. Board

Unscrew 3 screws (H) and 4 locking portions (I) to remove the P.C. Board.

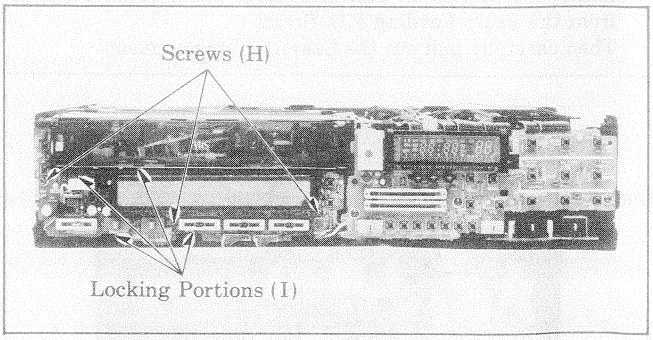


Fig. 8

7. Removal of Main P.C. Board with FM Audio P.C. Board

Unscrew 2 screws (J) and unlock 2 locking portions (K). Then open the Main P.C. Board with FM Audio P.C. Board.

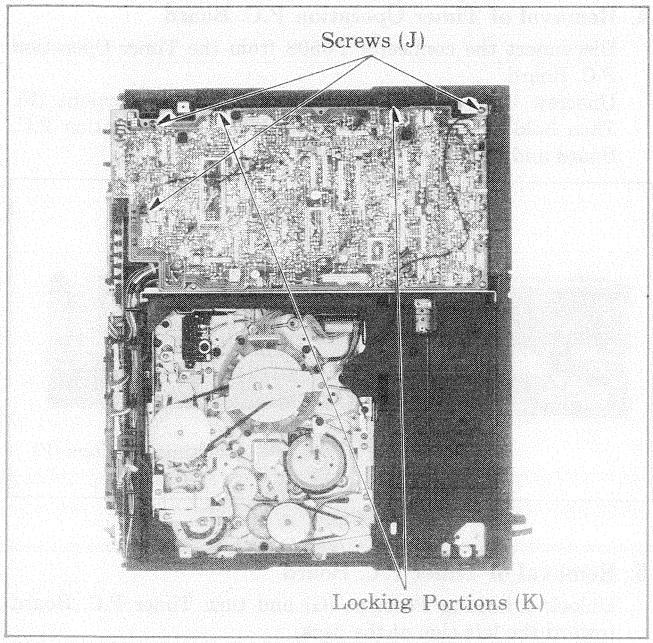


Fig. 9

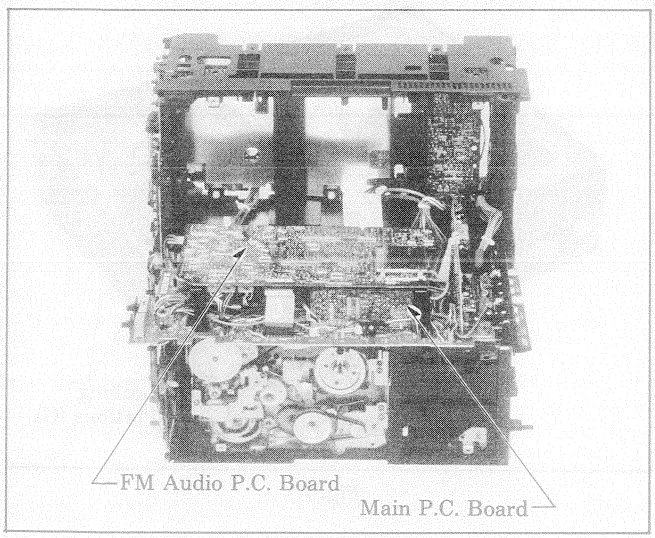


Fig. 10

8. Removal of Cassette Compartment

Remove 2 screws (L) and disconnect the connector P1510 from the Front Loading P.C. Board.
Then carefully pull out the Cassette Compartment.

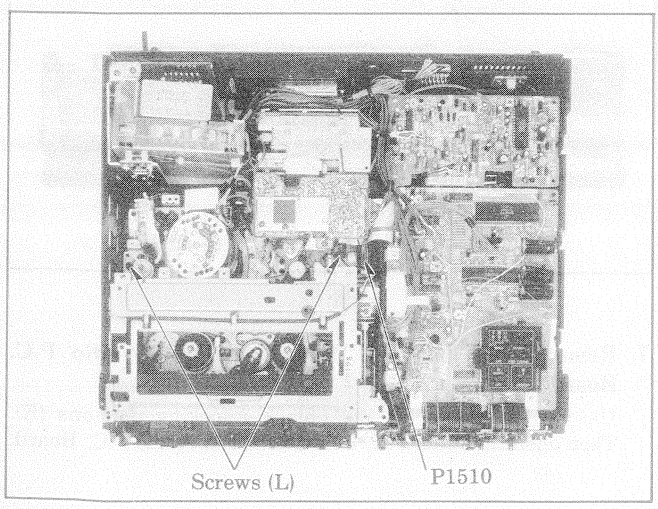


Fig. 11

2-3. REPLACEMENT OF UPPER CYLINDER UNIT

Be sure to observe the following procedures when replacing the Upper Cylinder Unit.

1. Removing the Upper Cylinder Unit

First, remove two screws as shown in Fig. 11.
Then, unsolder 12 soldered portions indicated by arrows, on the P.C. Board and finally remove the Upper Cylinder Unit by lifting it upwards.

Note:

Soldered portion can be easily removed by using solder sucking wire, etc.

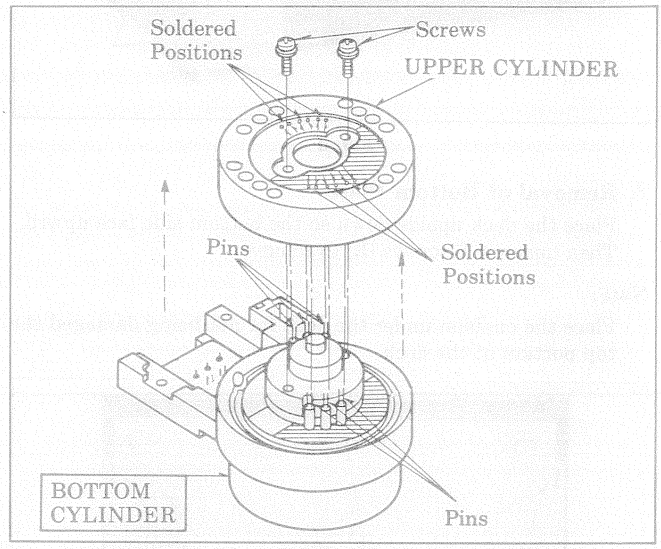


Fig. 12

2. Reinstalling the Upper Cylinder Unit

The Upper Cylinder Unit can be reinstalled by reversing the removal procedure.
However, when reinstalling, it be extremely careful so that both the white and green portions of the P.C. Board on the Upper Cylinder Unit will correctly match the white and green portions of the P.C. Board on Bottom Cylinder as shown in Fig. 13.

Note:

It the Upper Cylinder unit is reversely installed, no colour will appear when playing back a pre-recorded tape.

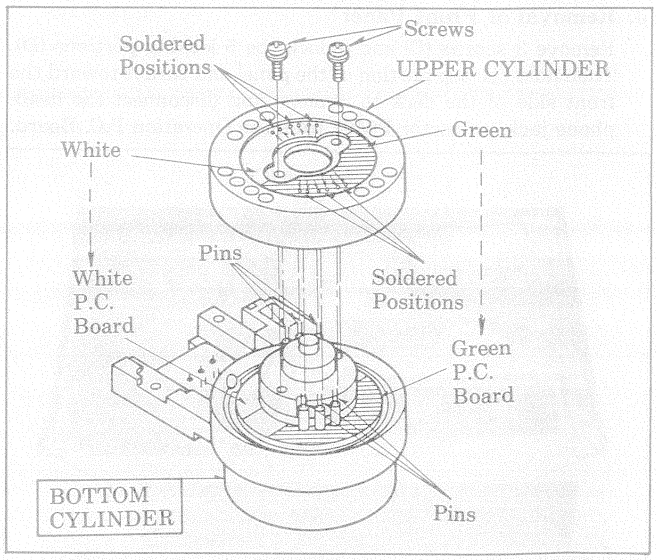


Fig. 13

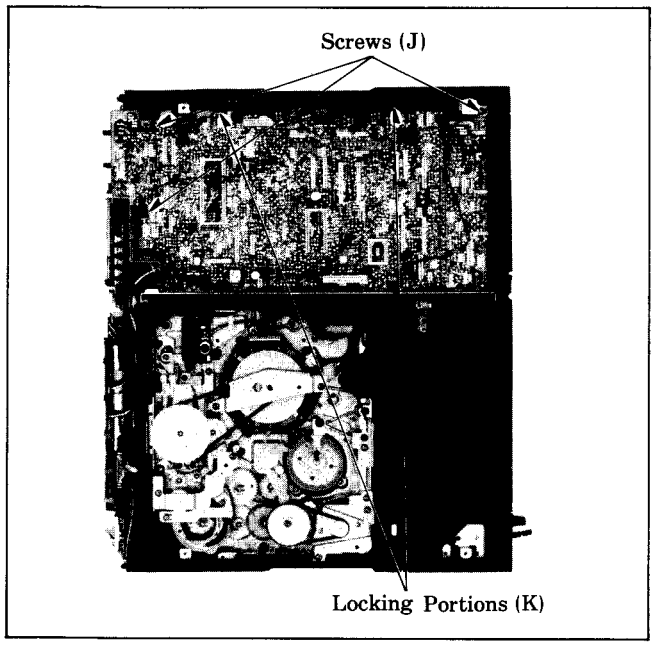


Fig. 9

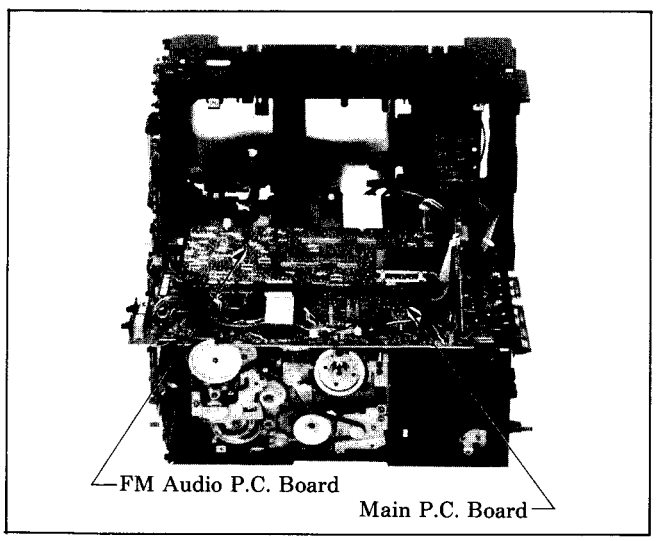


Fig. 10

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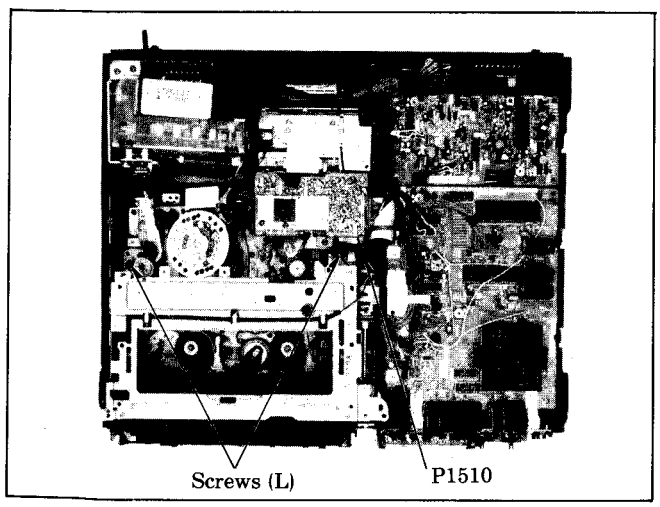
Then carefully pull out the Cassette Compartment.



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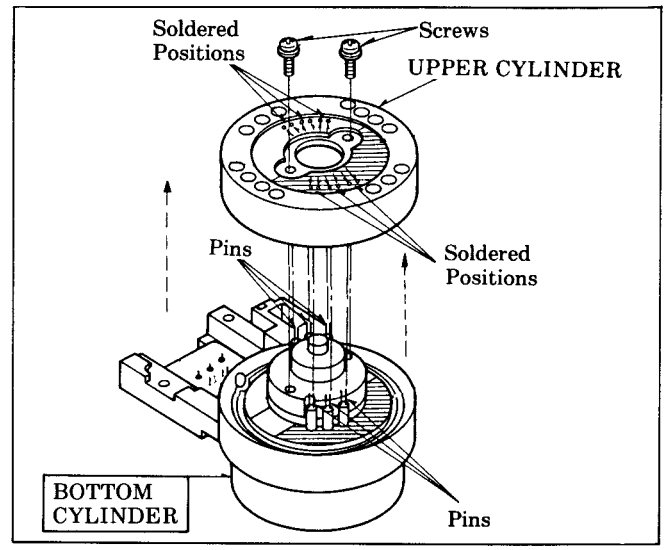

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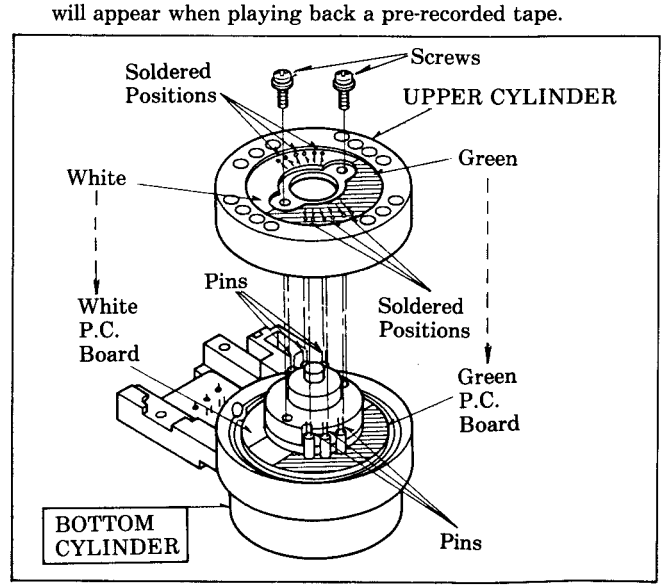
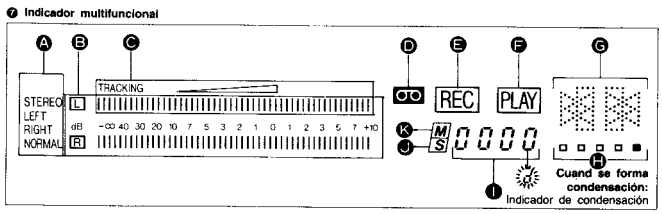


Fig. 13

⑥ Audio Playback Mode Selector Button
Push this button until the Sound Track Indicator of the desired sound mode lights up. (See table as shown below).

Audio Playback Mode / Sound Track Indicators	Playback of Programmes Recorded on the NV-870 (on another VHS Hi-Fi Video Recorder)	
	Stereo Programmes	Bilingual Programmes (For model EG, EO only)
LEFT	Left Channel	Channel 1 (Main)
STEREO	Left+Right Channels (Stereo)	CH1 from Left CH2 from Right
RIGHT	Right Channel	Channel 2 (Sub)
NORMAL	Mono	Channel 1 (Main)

⑦ Multi Function Display



Ⓐ Sound Track Indicators
Ⓑ Audio Rec Level Meter
Ⓒ Hi-Fi Tracking Meter
Ⓓ Cassette-in Indicator
Ⓔ Recording Indicator
Ⓕ Playback Indicator
Ⓖ Tape Running Display
Ⓗ Slow Speed Indicators
Ⓘ Tape Counter
Ⓙ Tape Programme Search Indicator
Ⓚ Memory Indicator

⑧ Audio Rec Level Control Selector Switch
Set the Audio Level Meter Selector Switch to "Audio Level" and this switch to "Manual" and adjust the recording volume with the Audio Rec Level Control.
Control while observing the Audio Level Meters. (It is recommended to adjust so that peaks in the audio level reach about 3dB). When this switch to "AGC", the recording level is automatically adjusted.

⑨ Tracking Control
Normal Playback: Adjust the Tracking Control on the VTR if the image is partially obscured by band of noise.
Hi-Fi Sound Playback: This may be necessary, if the recording was made on another Hi-Fi VHS video recorder. Set the Audio Level Meter Selector Switch to "Hi-Fi Tracking" and slowly slide the Tracking Control while observing the Audio Level Meter, to adjust for highset possible meter Indication.

⑩ Slow Tracking Control
When noise bars appear in the still, Still advance and slow playback mode, slowly turn this control to minimize the noise bars in the picture.
It may not be possible to eliminate the noise bars completely.

⑪ Picture Sharpness Control
The picture sharpness control enables the playback picture to be adjusted so that its outlines are made sharper or softer. It has no effect when recording.

⑫ Reset Button
Push the Reset button to reset the Counter of Multi-Function Display to "0000".

⑬ Memory/Search Button
If you want find a certain tape position again later, reset the tape counter at that point and push the "memory/search" button once.
During Rewind or Fast Forward, the tape will stop automatically at the tape counter position "0000".
The convenient tape programme search function of this VTR locates blank spaces in the audio track (that mark the beginning of the programmes) during Cue or Review playback. As soon as the next blank space is reached, the playback starts automatically if the search was started from the playback mode. If it was started from the still mode, the VTR will be stopped in the still playback mode.
1. Push the Audio Rec Mute button for more than 4 seconds during recording to mark the beginning of a programme.
2. Push the Memory/Serch Button twice, then "S" appears on the Multi-Function Display.
3. Push the Play Button (or the Playback and Pause/Still Buttons).
4. Push the Rewind/Review button or Fast Forward Button to start the Tape Programme Search function.
   The tape programme search without sound reproduction will start.

⑭ Timer Controls
The timer controls are used to set the clock for the present time and to programme start and stop for timer recording.

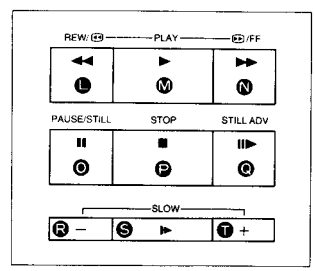
⑮ Record Button
Push to start recording.

⑯ Audio Rec Mute Button
Push the Audio Rec Mute Button when indexing the tape for tape Program Search, refer to the description of the Memory/Search Button ⑬.

⑰ Input Signal Selector Switch
For selecting the input signal to be recorded.

⑱ MPX Filter Switch
If the sound is impaired by high frequency distortion when recording from an FM tuner, set the MPX Filter Switch to "On". If there is not distortion when recording from an FM tuner, and for all other recordings, set this switch to "Off". This switch has no influence on the playback.

⑲ Tape Running Controls



Ⓛ Rewind/Review Button
Ⓜ PLAY Button
Ⓝ Fast Forward/Cue Button
Ⓞ Pause/Still Button
Ⓟ Stop Button
Ⓠ Still Advance Button
Ⓡ Slow (−) Button
Ⓢ Slow Button
Ⓣ Slow (+) Button

⑳ Timer Set-up Controls
Tuning control for the any broadcast channel in your area.

㉑ **Channel Display**

㉒ **Channel Selection Up and Down Buttons**
Push the desired channel selector buttons to select the channel you wish to view or record.

㉓ **Timer Display**
Indicates either the timer/day or recording start/stop times for the timer recording.

㉔ **Hi-Fi Audio System Indicator**
Recording of stereo and bilingual programmes is controlled automatically. It is not necessary to preselect any sound tracks.

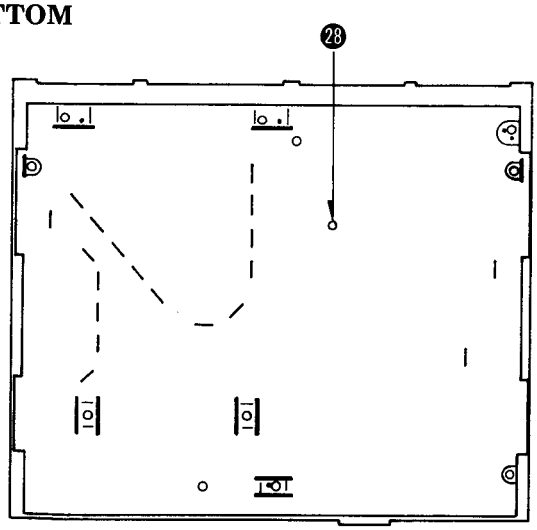
BILINGUAL: (NV-870EG/EO)	When a bilingual programme is received, the "BILINGUAL" indicator lights up.
STEREO: (NV-870EG/EO)	When a stereo programme is received, the "STEREO" indicator lights up.
SIMUL:	Set the Input Signal Selector to "SIMUL". The "SIMUL" indicator light up.

㉕ **Audio Rec Level Control**
The recording level for the right and left channel can be adjusted individuall.
Manual adjustment of the audio recording level is only possible for the sound recorded on the Hi-Fi audio tracks. The sound recorded on the "normal" sound track is automatically controlled by the AGC system.

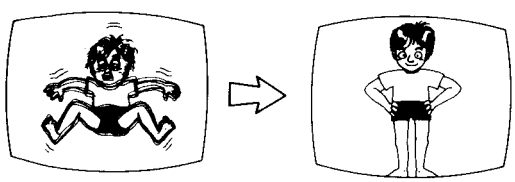
㉖ **Infra-red Remote Control Receiver**
Receiving the Infra-red Remote Control signal.

㉗ **Cassette Compartment**

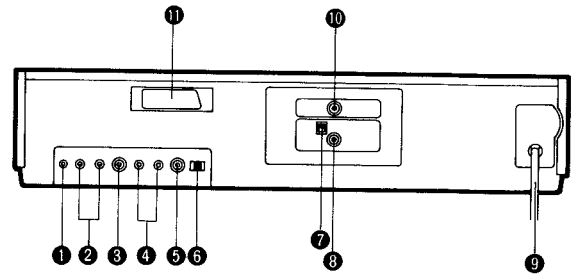
BOTTOM



㉘ **V-Lock**
If a vertical jitter appears on the TV monitor in Still, Still-Advance or Slow mode, adjust the V-lock control at the best position so that the picture can be stabilized.
Once you adjust this control, no more adjustment is required unless you change the connected TV receiver.



REAR



❶ **Camera Remote Control Socket**
For connecting the remote control cable of a video camera (optional).

❷ **Audio Input Socket**
For connecting an audio cable of a video camera or another VTR.

❸ **Video Input Socket**
For connecting the video cable of a video camera or an output video signal of another VTR.

❹ **Audio Output Socket**
For connecting an audio cable of a TV monitor, or another VTR.

❺ **Video Output Socket**
For connecting a TV monitor or another Video Cassette Recorder. Not used with an ordinary TV.

❻ **Colour Mode/Test Signal Switch**
In the TEST position, a black-and-white test pattern is generated, which allows easy tuning of your TV set to the video playback channel of the VTR. For normal recording and playback operation, this switch must be in the middle AUTO position.
Only if the colour reception of a station is particularily weak, setting this switch to the COLOUR position can improve the recording quality.

❼ **RF Signal Level Switch (NV-870E/B/EO)**
Used to attenuate the reception of the VHF and/or UHF aerial signals.
If the reception is normal, set to "HIGH". If the signal is strong (stripes appear in the upper part of the picture), set to "LOW".

❽ **RF Input Socket**
Connect the external aerial, which is now connected to the TV set, to the socket.

❾ **AC Mains Cord**

❿ **RF Output Socket**
For connection to the antenna terminal (COAXIAL type) of TV with the DIN-DIN Coaxial Cable supplied dith the unit.

⓫ **AV Socket**
Connect the AV Socket on the VTR to the AV Socket on the TV set.
- The AV Socket allows recording and playback of picture and sound. This connection can be used for TV sets which are also equipped with an AV Socket. Via this socket, TV programmes can be recorded, too. Such a connection improves the picture and sound quality during playback.

2-4. REPLACEMENT OF AC CORD

Note:

When AC cord is replaced, please change both AC cord cover and Binding wire without fail for safety operation.

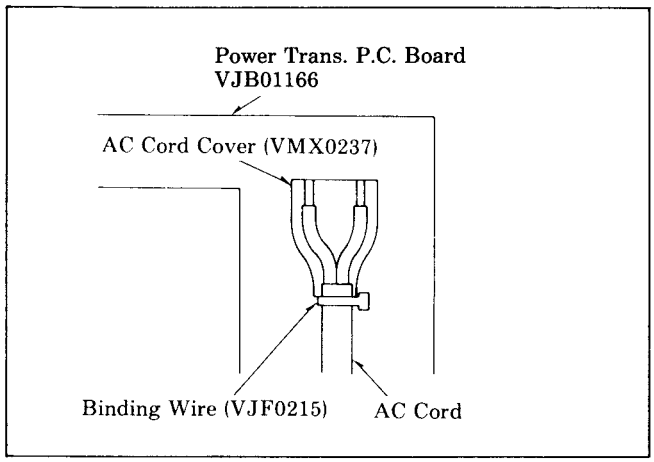


Fig. 14

2-5. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette recorders NV-870.

2-5-1. TEST EQUIPMENTS

To perform the electrical adjustments completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage Range: 0.001 ~ 50 V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005 ~ 50 V/div.
   Frequency Range: DC ~ 10 MHz
   Probes: 10 : 1 or 1 : 1
3. Frequency Counter
   Frequency Range: 0 ~ 10 MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0 ~ 10 MHz
5. Video Sweep Generator
   Frequency Range: 0 ~ 10 MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)

2-5-2. HOW TO READ THE ADJUSTMENT PROCEDURES

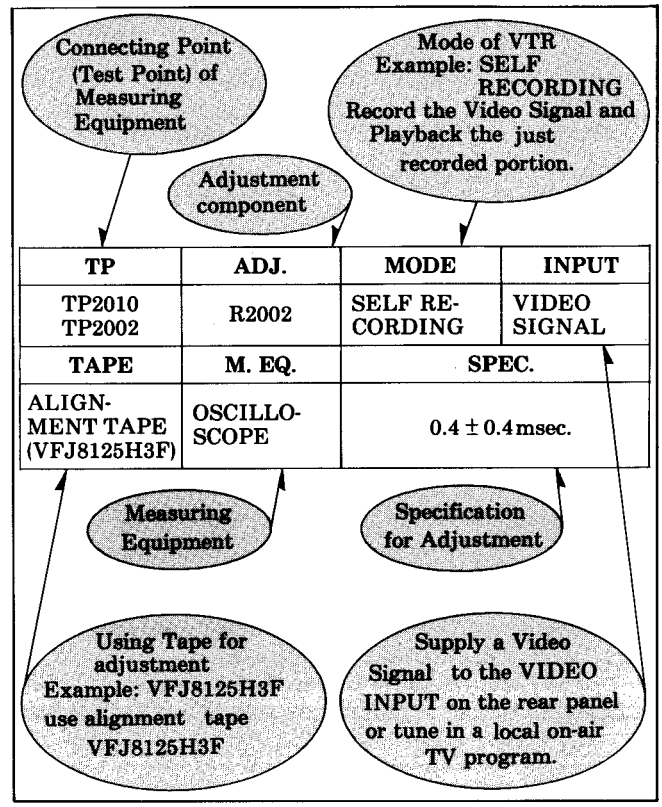


Fig. 15

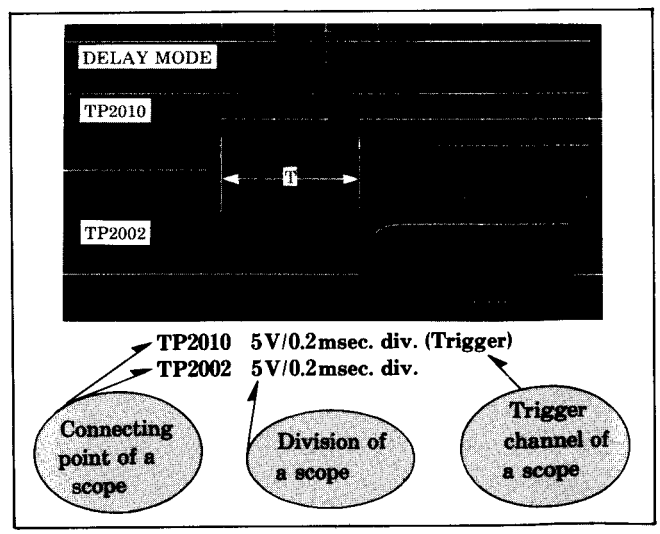


Fig. 16

POWER SUPPLY SECTION

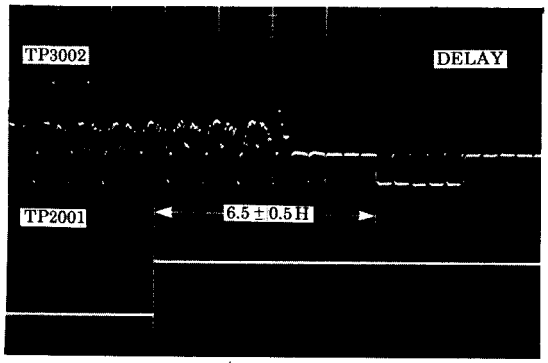
2-5-3. REG +5V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1003	VR1003	STOP	
TAPE	M. EQ.	SPEC.	
	D.V.M.	5.1 ± 0.1 V	

SERVO SECTION

2-5-4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
ALIGN-MENT TAPE (VFJ8125H3F)	OSCILLO-SCOPE	6.5 ± 0.5 H	



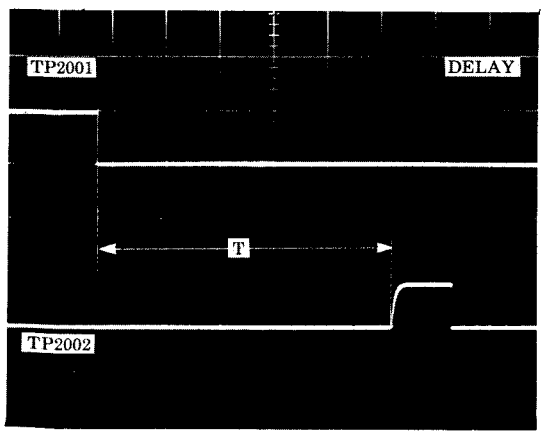
TP3002 VIDEO 1 V/0.1 msec. div.
TP2001 H. SW 5 V/0.1 msec. div. (Trigger)

Fig. 17

2-5-5. TRACKING FIX ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	T=10 ± 1 msec.	

1. TRACKING VR is center fix position.
2. Play back the just recorded portion.
3. Adjust VR2002 so that the period of "T" is 10 ± 1 msec. as shown below.



TP2001 H. SW 5 V/0.2 msec. (Trigger)
TP2002 C.T.L 5 V/0.2 msec.

Fig. 18

2-5-6. FINE SLOW FREE RUN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2015	VR2013	REC • PLAY	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
30 MIN. BLANK TAPE (NV-E30)	FREQUEN-CY COUNTER	530 ± 10 Hz	

Note:

To make this adjustment, please prepare a 1 : 1 probe and 30 min. Tape (NV-E30).

1. Connect a jumper wire between TP2013 and GND.

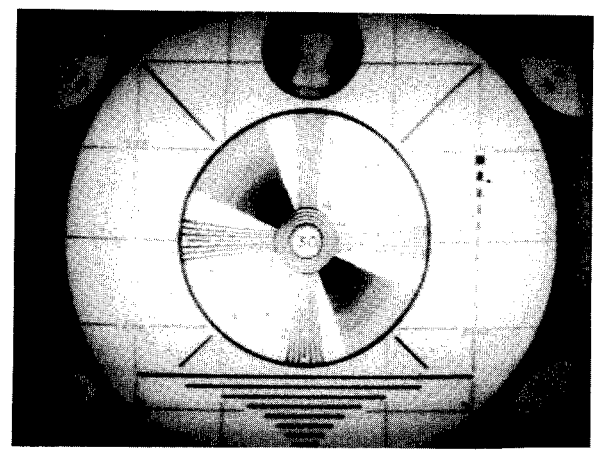
2-5-7. FINE SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2011	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	MONITOR TV		

Note:

When this adjustment proceeds, PG shifter, Tracking Fix and Fine Slow Free Run Adjustments must be completed.

1. SLOW TRACKING VR is center position.
2. Play back the just recorded portion in Slow mode.
3. Adjust VR2011 so that the noise band stays on the top or bottom of TV monitor screen.



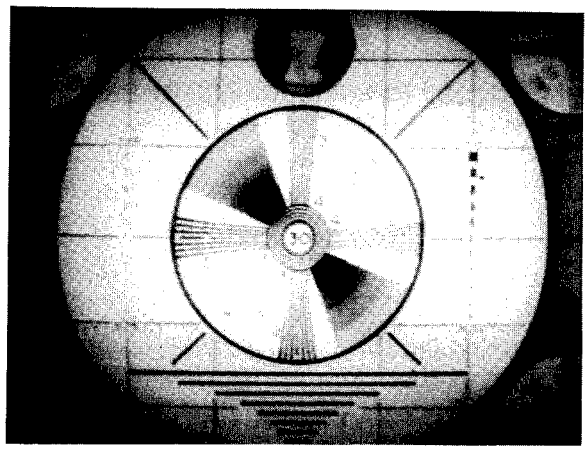
SLOW MODE

Fig. 19

2-5-8. ARTIFICIAL V-SYNC ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2010	SELF RECORDING	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	MONITOR TV		

1. Play back the just recorded portion in Still mode.
2. Adjust VR2010 so that the V-dancing does not appear on the TV Monitor Screen.



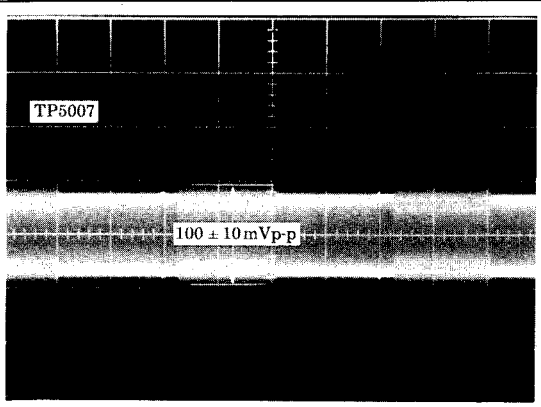
STILL MODE

Fig. 20

LUMINANCE, CHROMINANCE & HEAD AMP SECTION

2-5-9. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5007 (HOT) TP5008 (GND)	VR3001	REC • PLAY	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	100 ± 10 mVp-p	



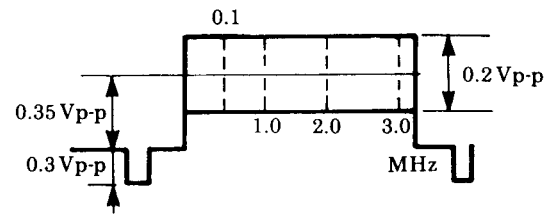
TP5007 50mV/5msec. div.

Fig. 21

2-5-10. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

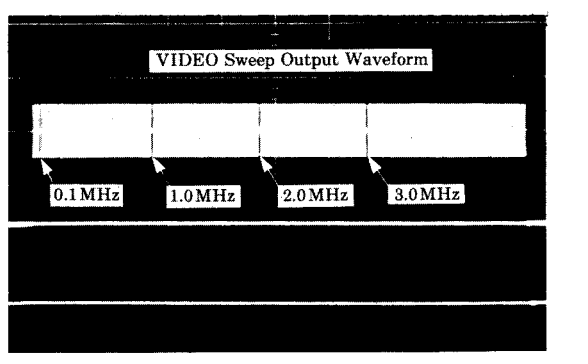
TP	ADJ.	MODE	INPUT
LINE OUT	VR3051	SELF RECORDING	VIDEO SWEEP
TAPE	M. EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE		

1. Set the sweep generator output as shown below.



Conditions: 1. Burst Signal off.
2. 75Ω terminated.

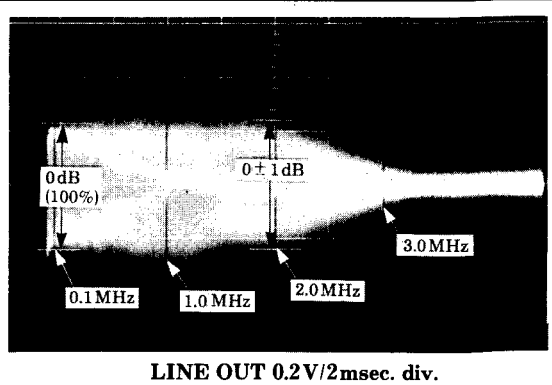
Fig. 22



0.2V/2msec. div.

Fig. 23

2. PICTURE VR is center fix position.
3. Playback the just recorded portion.
4. Adjust VR3051 so that the waveform becomes as shown below.



LINE OUT 0.2V/2msec. div.

Fig. 24

AUDIO SECTION

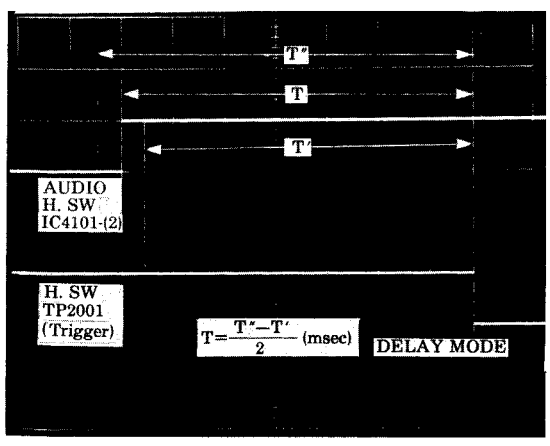
2-5-11. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (+) TP4003 (−)	VR4002	REC • PLAY	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	3.6 ± 0.1 mVrms	

2-5-12. PLAYBACK AUDIO SW ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4101-(2) TP2001	VR4510	SELF RECORDING	10kHz, 0dB
TAPE	M. EQ.	SPEC.	
BLANK TAPE	SIGNAL GENER-ATOR, OSCILLO-SCOPE		

1. Set the Input Select SW of the deck to AUDIO mode and Audio Recording SW is AGC position.
2. Connect the signal generator output to the both Input Jacks (L) and (R).
3. Playback the just recorded portion.
4. Adjust the Playback Audio SW VR (R2073) while listening to the stereo playback sound.
   (1) Confirm the T′ time when the abnormal sound just occurs during tuning clockwise on VR4510.
   (2) Confirm the T″ time when the abnormal sound just occurs during tuning counter clockwise on VR4510.
   (3) Adjust VR4510 so that the falling edge T of the SHIFT H. SW pulse becomes the center portion of the both T′ and T″.



IC4101-(2) 2V/2msec. div.
TP2001 2V/2msec. div. (Trigger)

Fig. 25

2-5-13. AUDIO CHANNEL BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4511	STOP	1kHz 0dB
TAPE	M. EQ.	SPEC.	
	V.T.V.M./ SIGNAL GENER-ATOR	Less than 0.5dB	

1. Set the Audio Select SW to the STEREO mode and Audio Recording SW is AGC position.
2. Adjust VR4511 so that the LINE OUT level is less than 0.5dB, compared with ch1 and ch2 input levels.

2-5-14. AUDIO RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4507 (HOT) TP4508 (GND)	VR4503	REC • PLAY	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	180 ± 10mVp-p	

2-5-15. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4001 (Normal) VR4504 (CH1) VR4508 (CH2)	SELF RECORDING	1kHz, 0dB AUDIO SIGNAL & VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ V.T.V.M./ SIGNAL GENER-ATOR	E-E LEVEL= −8 ± 2dB PLAYBACK LEVEL= E-E LEVEL ± 0.5dB	

Note:
Before this adjustment "Tape Interchangeability Adjustment" must be completed.

1. Set the Audio Recording SW is AGC position.
2. Play back the just recorded portion.
3. Adjust VR4001 (NORMAL mode), VR4504 (STEREO mode) and VR4508 (STEREO mode) volumes one by one, so that the level of the playback becomes E-E level ± 0.5dB.

2-5-16. AUDIO MUTING ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR4505	SELF RECORDING	
TAPE	M. EQ.	SPEC.	
BLANK TAPE			

1. Set the AUDIO SELECT sw to the STEREO position.
2. Play back the just recorded portion.
3. Preadjust VR4505 until the Hi-Fi indication on the front panel display turns the NORMAL indication.
4. Adjust the TRACKING VR so that the Audio Tracking level becomes maximum.
5. Then slowly adjust VR4505 where the L+R indication just turns ON.
6. Confirm that the abnormal sound does not contain in the play back Hi-Fi sound.

OPERATION SECTION

2-5-17. LEVEL METER SENSITIVITY & BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR6507 (SENSI-TIVITY) VR6501 (BALANCE)	STOP	1kHz, 0dB
TAPE	**M. EQ.**	**SPEC.**	
	SIGNAL GENER-ATOR/ V.T.V.M.		

1. Set the AUDIO SELECT sw to the LEFT position and Audio Recording SW is the MANUAL position.
2. Connect the signal generator output to the both Input Jacks (L) and (R) and adjust the Recording level volume so that the L-ch AUDIO OUT level becomes 400mVrms.
3. Adjust VR6507 so that the 0dB indication at the L-ch level meter just lights up.
4. Adjust VR6501 so that the 0dB indicator lights up on the R-ch level meter.

2-5-18. OPERATION CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6501	VR6506	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	FREQUEN-CY COUNTER	1.55kHz ± 100Hz	

TIMER SECTION

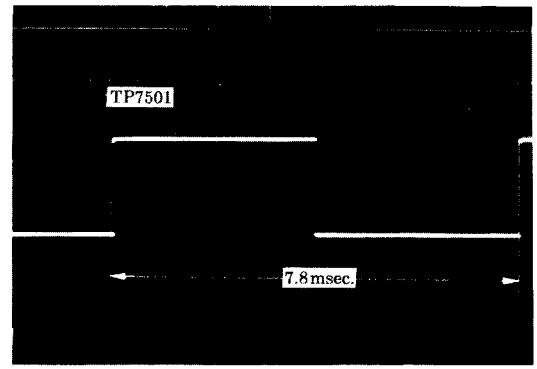
2-5-19. TIMER RESET (IC7501) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	R7509		
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE/ DC POWER SUPPLY	7.8msec.	

Note:

Do not connect the AC power plug.

1. Set the voltage of the DC POWER SUPPLY for 3.7 ± 0.05V. Then connect the DC POWER SUPPLY to TP7504 (+) and GND (−).
2. Adjust R7509 for 7.8msec. as shown in below.



TP7501 2V/1msec. div.

Fig. 26

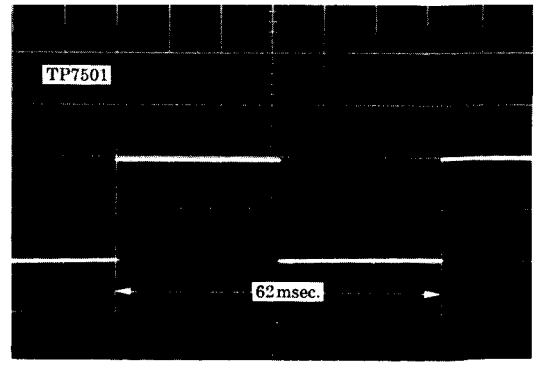
2-5-20. TIMER RESET (IC7503) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	R7535		
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE/ DC POWER SUPPLY	62msec.	

Note:

Do not connect the AC power plug.
This adjustment must be done after the completion of the TIMER RESET (IC7501) ADJUSTMENT.

1. Set the voltage of the DC POWER SUPPLY for 4.4 ± 0.05V. Then connect the DC POWER SUPPLY to TP7505 (+) and GND (−).
2. Connect a jumper wire between TP7504 and TP7505.
3. Adjust R7535 for 62msec. as shown in Fig. 27.



TP7501 2V/1msec. div.

Fig. 27

2-5-21. TIMER CLOCK (IC7501) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	C7502		
TAPE	M. EQ.	SPEC.	
	FREQ. COUNTER/ DC POWER SUPPLY	7812.5 ± 0.01 μs	

Note:

Do not connect the AC power plug.
This adjustment must be done after the completion of the TIMER RESET (IC7501) ADJUSTMENT and TIMER RESET (IC7503) ADJUSTMENT.

1. Set the voltage of the DC POWER SUPPLY for 6.0 ± 0.1 V. Then connect the DC POWER SUPPLY to P7502-(6) (+) and GND (−).
2. Adjust C7502 so that the indication of FREQUENCY COUNTER becomes 7812.5 ± 0.01 μs.

2-5-22. TIMER MUTING FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7508	R7595		
TAPE	M. EQ.	SPEC.	
	FREQUEN-CY COUNTER	15.625 ± 50 Hz	

Note:

To make this adjustment, please prepare the following circuit, Refer to Fig. 28.

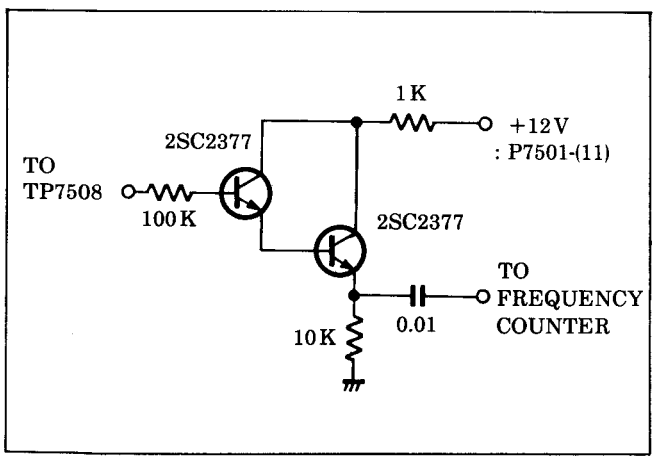


Fig. 28 Adjustment Circuit

TV DEMODULATOR SECTION
Model No.: NV-870E

2-5-23. TEST EQUIPMENTS

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor .....38.9 MHz
2. SIF Sweep Generator .....5.5 MHz ± 150 kHz
3. CW Oscillator .....38.9 MHz ± 100 kHz
4. Digital Volt Meter
5. Oscilloscope
6. Monitor Scope

Note:

To adjust the TV Demodulator Section, TV Demodulator Unit must be removed from the Deck.

1. Remove the TV DEMODURATOR Unit from the deck, and unsolder the "A" point as shown below.

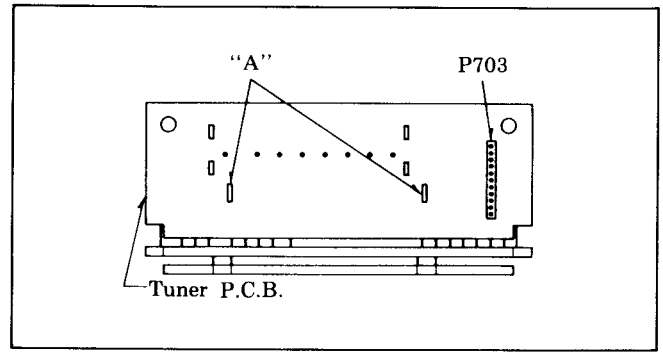


Fig. 29

2. Open the P.C.B. connect the P703, P702 and Tuner pin jack as shown below.

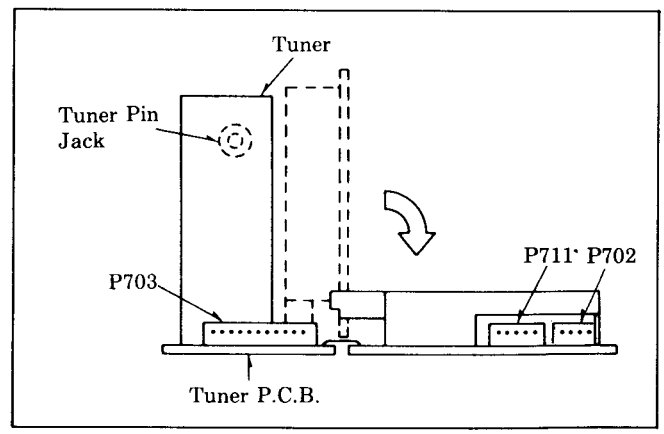


Fig. 30

2-5-24. SELECTIVE COIL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE	A=2Vp-p B=38.9MHz	

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V.
2. Set the AFC SW of the deck of OFF position.
3. Connect the VIF SWEEP to TP703 and connect the MONITOR SCOPE to TP707 as shown below.

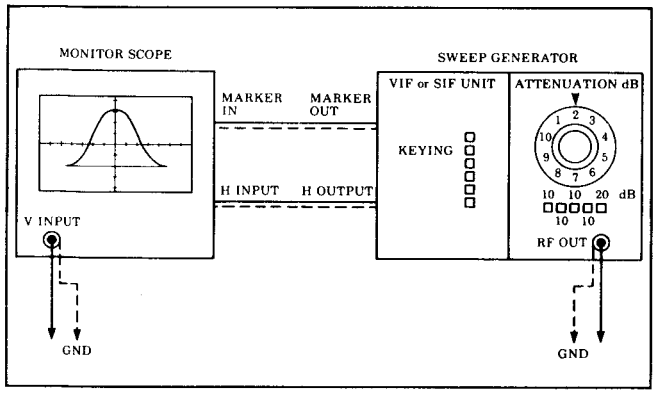


Fig. 31 Connection of Measuring Equipment

4. Connect the JIG to both points TP709 and P703-11 as shown below.

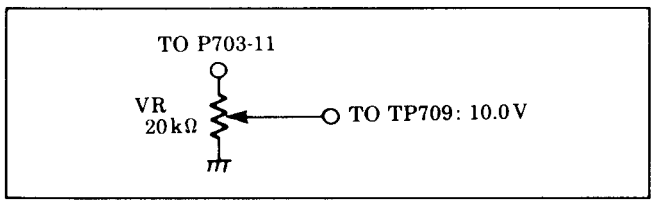


Fig. 32 Adjustment Jig

5. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 2Vp-p.
6. Turn T704 2 turns clockwise or counterclockwise.
7. Adjust T703 so that the marker position at 38.9MHz becomes peak point as shown below.

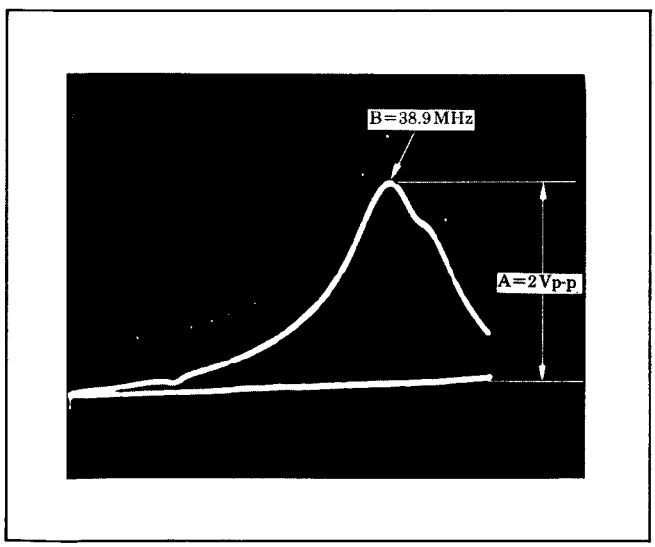


Fig. 33

8. Adjust T704 so that the marker position at 38.9MHz becomes as shown in Fig. 34.

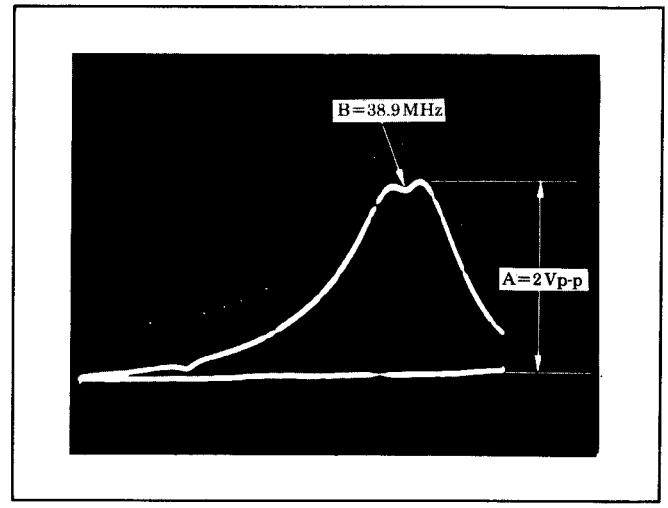


Fig. 34

2-5-25. VIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T701 T702		VIF SWEEP
TAPE	**M. EQ.**	**SPEC.**	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW to the VHF high position (VH) and turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V ± 1V.
2. Set the AFC SW of the deck to OFF position.
3. Connect a jumper wire between TP701 and GND. Connect the 100Ω resistor between TP704 and TP705.
4. Connect the VIF SWEEP GENERATOR to TEST POINT of the tuner, and connect the MONITOR SCOPE to TP707.
5. Connect the JIG. 1 both points TP709 and P703-11.
6. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 1.0Vp-p. And then release 20dB attenuation from the attenuator of the VIF SWEEP GENERATOR.
7. Adjust T702 so that the 33.4MHz trap becomes minimum.
8. Adjust T701-(B) so that the 40.4MHz trap becomes minimum.
9. Adjust T701-(C) so that the 31.9MHz trap becomes minimum.
10. Adjust VR1 of JIG. 1 so that the sweep wave becomes 1.0Vp-p.
11. Adjust the tuner converter coil and T701-(A) so that the sweep output waveform becomes as shown in Fig. 36.

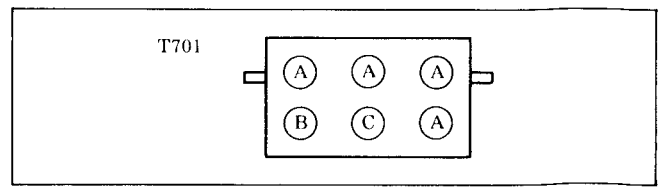


Fig. 35

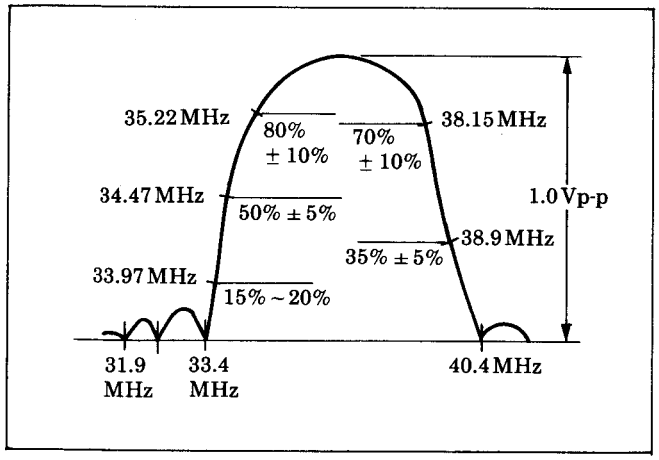


Fig. 36

2-5-26. SIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP710	T751 T752		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V ± 1V.
2. Set the AFC SW of the deck to the OFF position.
3. Connect the SIF SWEEP GENERATOR to TP706 and connect the MONITOR SCOPE to TP710.
4. Connect the JIG. 1 to both points TP709 and P703-11. Adjust the VR1 of the JIG. 1 so that the DC level becomes less than 5V.
5. Set the output of the SIF SWEEP GENERATOR to 700mVp-p at no load.
6. Adjust T752 so that the attenuation of 5.5MHz trap becomes minimum.
7. Adjust T751 for maximum peak-to-peak amplitude of response "S" cure as show below.

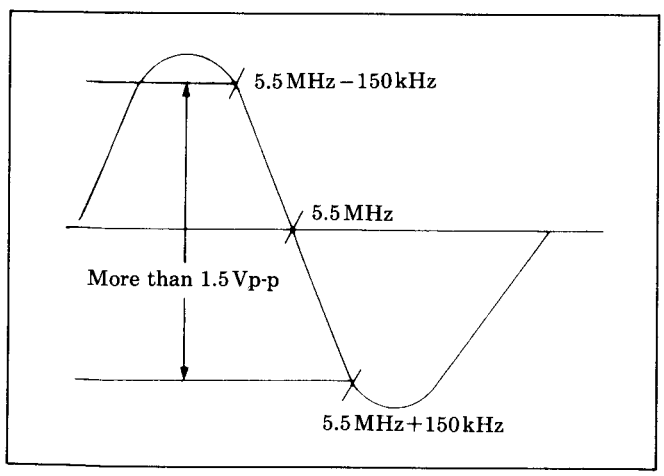


Fig. 37 SIF WAVEFORM

8. Confirm that the level between the 150kHz marker position is more than 1.5Vp-p.

2-5-27. AFC ADJUSTMENT

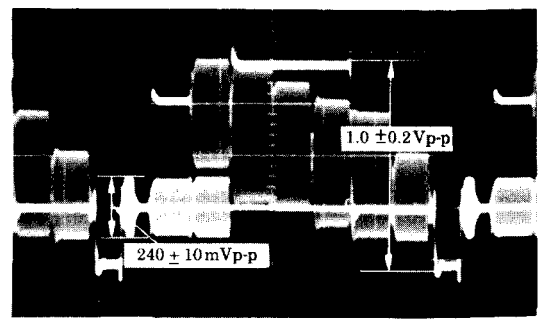
TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	M. EQ.	SPEC.	
	CW OS- CILLATOR/ D.V.M.	6.5 ± 0.3V	

1. Set the BAND SW of the deck to the VHF high position (VH) and turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V ± 1V.
2. Set the CW OSCILLATOR output to 38.9MHz 1Vp-p and connect the CW OSCILLATOR output to the TUNER TEST POINT.
3. Connect the D.V.M. to the AFC TERMINAL of the tuner.
4. Cofirm the reading "A" of the D.V.M. is 6.5V, when the AFC SW is OFF.
5. Set the AFC SW to ON and adjust T704 for 6.5 ± 0.3V.
6. Change the frequency of the CW OSCILLATOR ± 100kHz, centered at 38.9MHz and confirm that the difference of the AFC voltage is more than ± 2V.

2-5-28. CONFIRMATION OF VIDEO LEVEL AND BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLO- SCOPE	VIDEO LEVEL 1.0 ± 0.2Vp-p BURST LEVEL 240 ± 20mVp-p	

1. Supply the RF COLOUR BAR SIGNAL to RF IN TERMINAL and tune this signal.
2. Set the AFC SW to ON position.
3. Confirm that the video level at TP711 is 1.0 ± 0.2Vp-p.
4. Adjust VR741 so that the burst level becomes 240 ± 20mVp-p as shown below.



TP711

Fig. 38

TV DEMODULATOR SECTION
Model No.: NV-870B

2-5-29. TEST EQUIPMENTS

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor .....39.5 MHz
2. SIF Sweep Generator .....6.0 MHz ± 150 kHz
3. CW Oscillator .....39.5 MHz ± 100 kHz
4. Digital Volt Meter
5. Oscilloscope
6. Monitor Scope

Note:

To adjust the TV Demodulator Section, TV Demodulator Unit must be removed from the Deck.

1. Remove the TV DEMODURATOR Unit from the deck, and unsolder the "A" point as shown below.

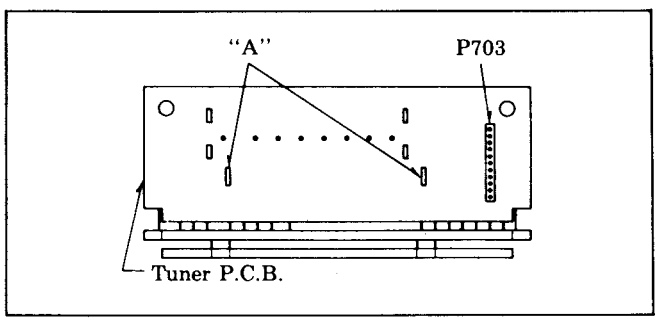


Fig. 39

2. Open the P.C.B. connect the P703, P702 and Tuner pin jack as shown below.

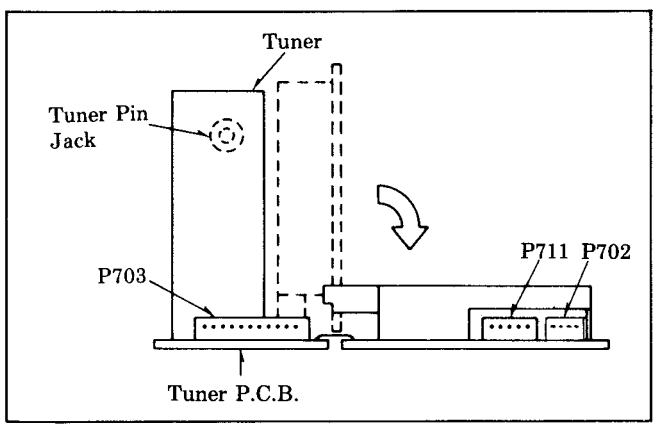


Fig. 40

2-5-30. SELECTIVE COIL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE	A=2Vp-p B=39.5MHz	

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15 V.
2. Set the AFC SW of the deck of OFF position.
3. Connect the VIF SWEEP to TP703 and connect the MONITOR SCOPE to TP707 as shown below.

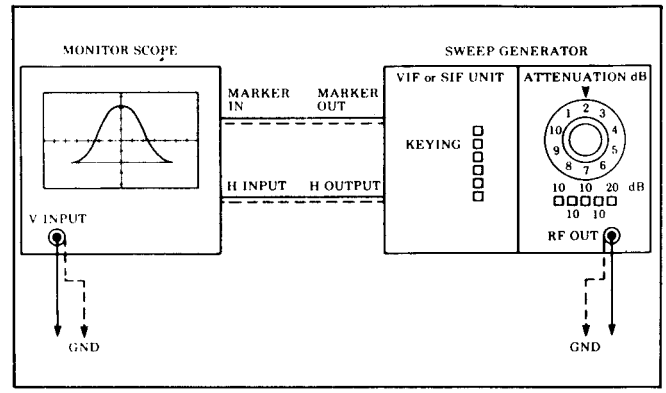


Fig. 41 Connection of Measuring Equipment

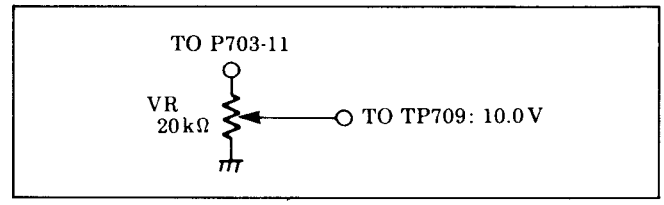


Fig. 42 Adjustment Jig

5. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 2 Vp-p.
6. Turn T704 2 turns clockwise or counterclockwise.
7. Adjust T703 so that the marker position at 39.5 MHz becomes peak point as shown below.

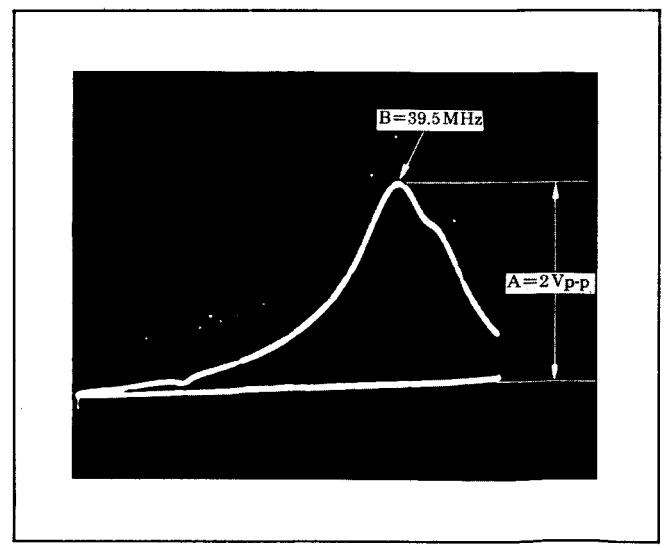


Fig. 43

8. Adjust T704 so that the marker position at 39.5MHz becomes as shown below.

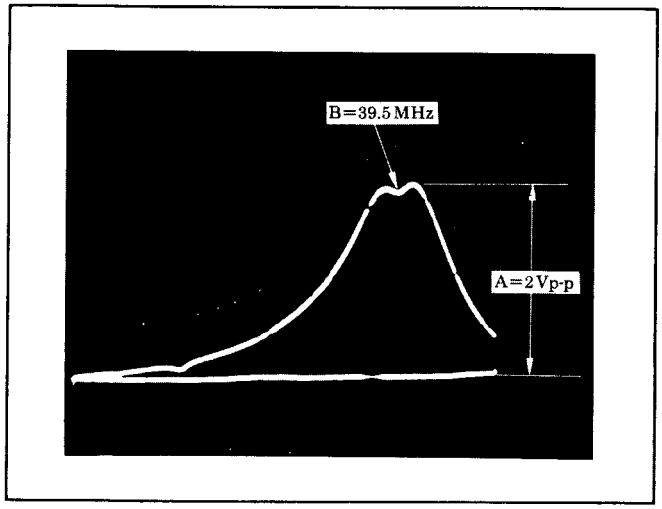


Fig. 44

2-5-31. VIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T701 T702		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW to the VHF high position (VH) and turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V ± 1V.
2. Set the AFC SW of the deck to OFF position.
3. Connect a jumper wire between TP701 and GND. Connect the 100Ω resistor between TP704 and TP705.
4. Connect the VIF SWEEP GENERATOR to TEST POINT of the tuner, and connect the MONITOR SCOPE to TP707.
5. Connect the JIG. 1 both points TP709 and P703-11.
6. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 1.0Vp-p. And then release 20dB attenuation from the attenuator of the VIF SWEEP GENERATOR.
7. Adjust T702 so that the 33.4MHz trap becomes minimum.
8. Adjust T701-(B) so that the 40.4MHz trap becomes minimum.
9. Adjust T701-(C) so that the 31.9MHz trap becomes minimum.
10. Adjust VR1 of JIG. 1 so that the sweep wave becomes 1.0Vp-p.
11. Adjust the tuner converter coil and T701-(A) so that the sweep output waveform becomes as shown in Fig. 46.

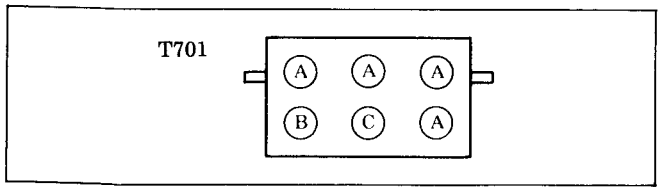


Fig. 45

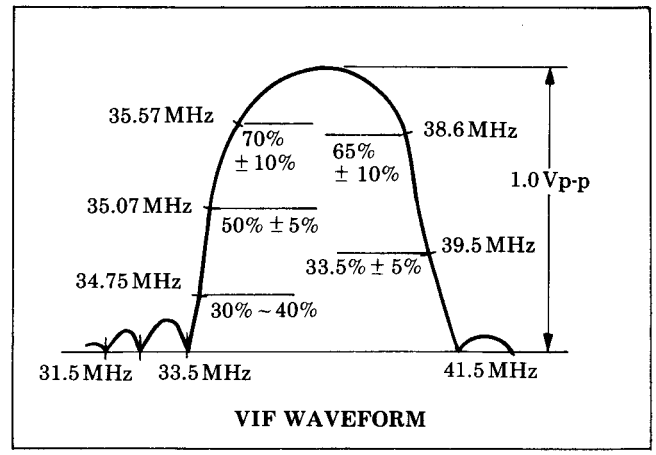


Fig. 46

2-5-32. SIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP710	T751 T752		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE		

1. Turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V ± 1V.
2. Set the AFC SW of the deck to the OFF position.
3. Connect the SIF SWEEP GENERATOR to TP706 and connect the MONITOR SCOPE to TP710.
4. Connect the JIG. 1 to both points TP709 and P703-11 and adjust the VR1 of the JIG. 1 so that the DC level becomes less than 5V.
5. Set the output of the SIF SWEEP GENERATOR to 700mVp-p at no load.
6. Adjust T752 so that the attenuation of 6.0MHz trap becomes minimum.
7. Adjust T751 for maximum peak-to-peak amplitude of response "S" cure as show below.

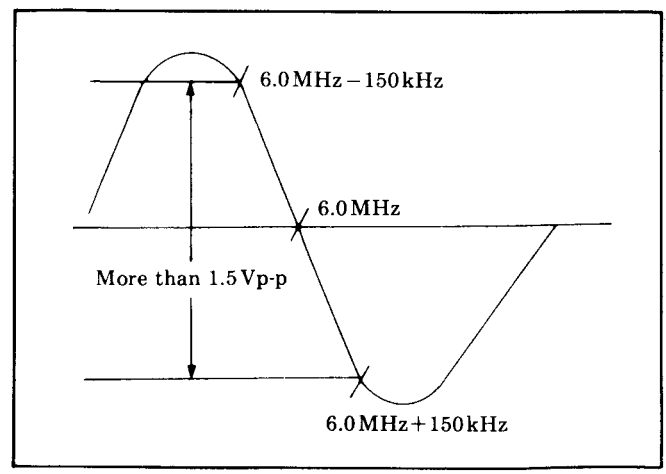


Fig. 47 SIF WAVEFORM

2-5-33. AFC ADJUSTMENT

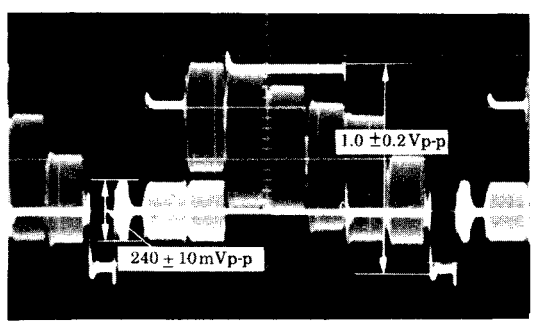
TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	M. EQ.	SPEC.	
	CW OSCILLATOR/ D.V.M.	6.5 ± 0.3 V	

1. Turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15 V ± 1 V.
2. Set the CW OSCILLATOR output to 39.5 MHz 1 Vp-p and connect the CW OSCILLATOR output to the TUNER TEST POINT.
3. Connect the D.V.M. to the AFC TERMINAL of the tuner.
4. Cofirm the reading "A" of the D.V.M. is 6.5 V, when the AFC SW is OFF.
5. Set the AFC SW to ON and adjust T704 for 6.5 ± 0.3 V.
6. Change the frequency of the CW OSCILLATOR ± 100 kHz, centered at 39.5 MHz and confirm that the difference of the AFC voltage is more than ± 2 V.

2-5-34. CONFIRMATION OF VIDEO LEVEL AND BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLOSCOPE	VIDEO LEVEL 1.0 ± 0.2 Vp-p BURST LEVEL 240 ± 20 mVp-p	

1. Supply the RF COLOUR BAR SIGNAL to RF IN TERMINAL and tune this signal.
2. Set the AFC SW to ON position.
3. Confirm that the video level at TP711 is 1.0 ± 0.2 Vp-p.
4. Adjust VR741 so that the burst level becomes 240 ± 20 mVp-p as shown below.



TP711 0.5 V/10 μsec. div.

Fig. 48

TV DEMODULATOR SECTION
Model No.: NV-870EG/EO

2-5-35. TEST EQUIPMENTS

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor .....38.9 MHz
2. CW Oscillator .....38.9 MHz ± 100 kHz
3. Monitor Scope
4. Oscilloscope
5. Digital Volt Meter

Note:

To adjust the TV Demodulator Section, TV Demodulator Unit must be removed from the Deck.

1. Remove the TV DEMODURATOR Unit from the deck, and unsolder the "A" point as shown below.

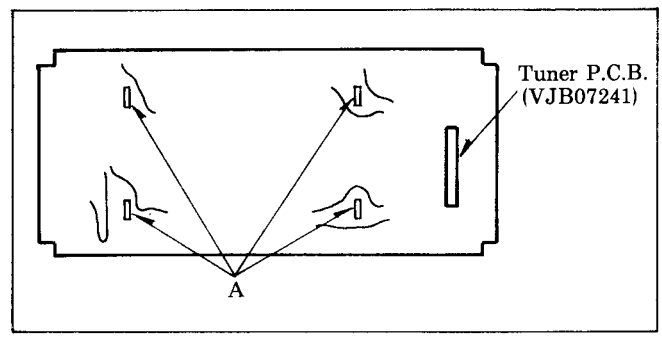


Fig. 49

2. Open the SIF and VIF P.C.B. connect the P703, P701 and Tuner pin jack as shown below.

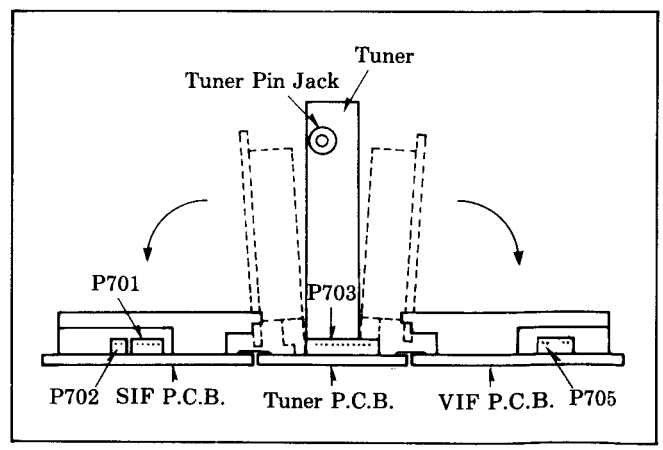


Fig. 50

2-5-36. SELECTIVE COIL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T703 T704		VIF SWEEP
TAPE	M. EQ.	SPEC.	
	VIF SWEEP/ MONITOR SCOPE	A=2 Vp-p B=38.9 MHz	

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V.
2. Set the AFC SW of the deck to OFF position.
3. Connect the VIF SWEEP to TP703 and connect the MONITOR SCOPE to TP707 as shown below.

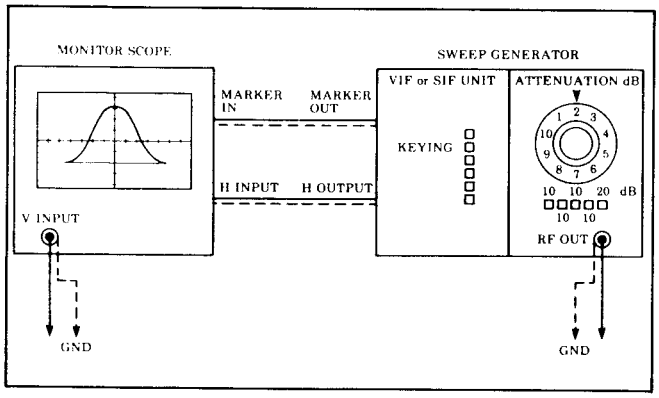


Fig. 51 Connection of Measuring Equipment

4. Connect the JIG to both points TP709 and P703-11 as shown below.

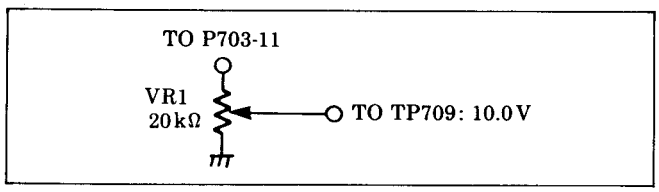


Fig. 52 Adjustment Jig

5. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 2Vp-p.
6. Turn T704 2 turns clockwise or counterclockwise.
7. Adjust T703 so that the marker position at 38.9MHz becomes peak point as shown below.

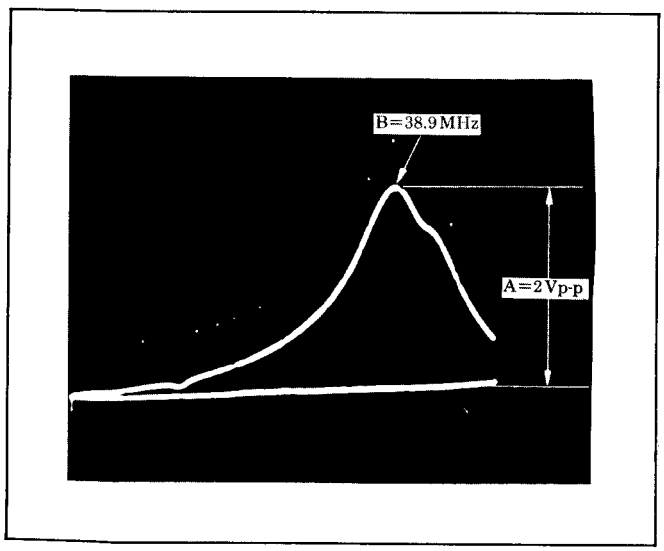


Fig. 53

8. Adjust T704 so that the marker position at 38.9MHz becomes as shown below.

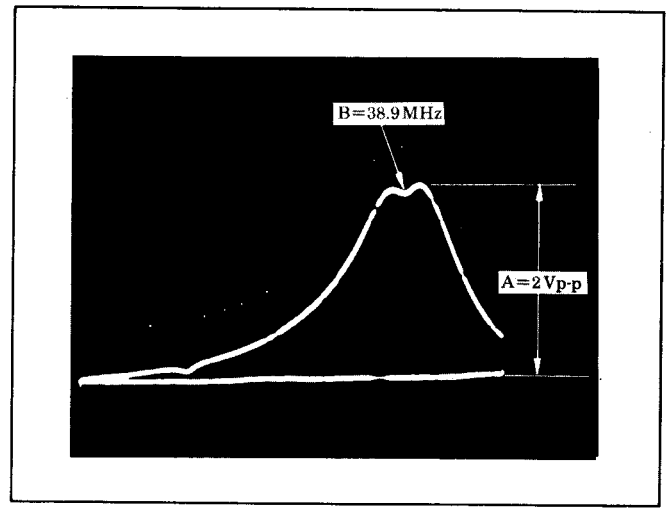


Fig. 54

2-5-37. VIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T701 (B) T702 T705 T701-(C)		VIF SWEEP
TAPE	**M. EQ.**	**SPEC.**	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15V ± 1V.
2. Set the AFC SW of the deck to OFF position.
3. Connect a jumper wire between the AGC terminal of the Tuner Unit and GND. Connect a 100Ω resistor between TP704 and TP705.
4. Connect the VIF SWEEP GENERATOR to TEST POINT of the tuner. And connect the MONITOR SCOPE to TP707.
5. Adjust T702 so that the 33.4MHz trap becomes minimum.
6. Adjust T701-B so that the 40.4MHz trap becomes minimum.
7. Adjust T705-C so that the 32.4MHz trap becomes minimum.
8. Adjust T701-C so that the 31.9MHz trap becomes minimum.
9. Adjust the output of the VIF SWEEP so that the VIF waveform level becomes 1.0Vp-p. Then rerease 20dB attenuation from the attenuator of the VIF SWEEP GENERATOR.
10. Connect the JIG and adjust VR1 of JIG so that the sweep wave becomes 1.0Vp-p.
11. Adjust the tuner converter coil and T701-(A) so that the sweep output waveform becomes as follows.

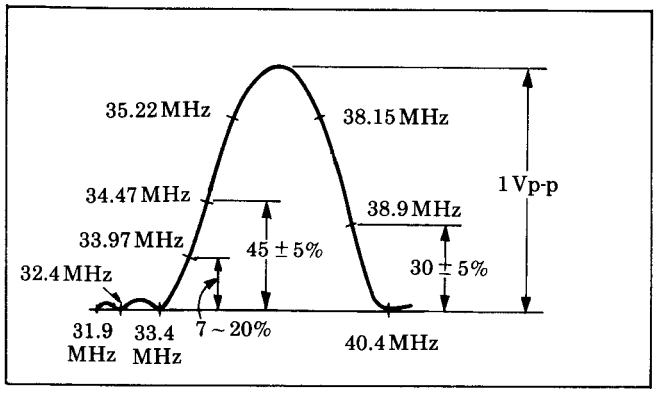


Fig. 55 VIF WAVEFORM

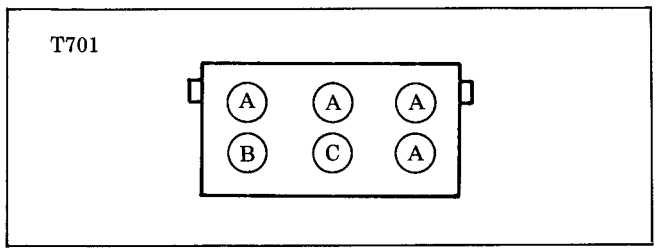


Fig. 56

2-5-38. AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	CW OSCILLATOR/ D.V.M.	A ± 0.3 V	

1. Set the BAND SW of the deck to the VHF high position (VH). And turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15 V ± 1 V.
2. Set the CW OSCILLATOR output to 38.9 MHz 1 Vp-p and connect the CW OSCILLATOR output to the TUNER TEST POINT.
3. Connect the D.V.M. to the AFC TERMINAL of the tuner and read the VOLTAGE "A", when the AFC SW is OFF.
4. Set the AFC SW to ON and adjust T704 for A ± 0.3 V.
5. Change the frequency of the CW OSCILLATOR ± 100 kHz centered at 38.9 MHz. And confirm that the difference of the AFC voltage is more than ± 2 V.

2-5-39. CARRIER TRANSFORMER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T707 T706 T712		VIF SWEEP
TAPE	**M. EQ.**	**SPEC.**	
	VIF SWEEP MONITOR SCOPE		

1. Set the BAND SW to the VHF high position (VH) and turn the tuning volume so that the voltage at BT terminal of the tuner becomes 15 V ± 1 V.
2. Set the AFC SW of the deck to OFF position.
3. Connect a jumper wire between the AGC terminal of the Tuner Unit and GND.
4. Connect the VIF SWEEP GENERATOR to TEST POINT of tuner. And connect the MONITOR SCOPE to TP754.
5. Adjust the output of the VIF SWEEP so that the VIF waveform level becomes 1.0 Vp-p. Then rerease 20 dB attenuation from the attenuator of the VIF SWEEP GENERATOR.
6. Connect the JIG to TP751 and adjust the VR1 so that the level becomes 1.0 Vp-p.
7. Adjust T753 so that the marker portion at 38.9 MHz is peak of the wave as shown below.

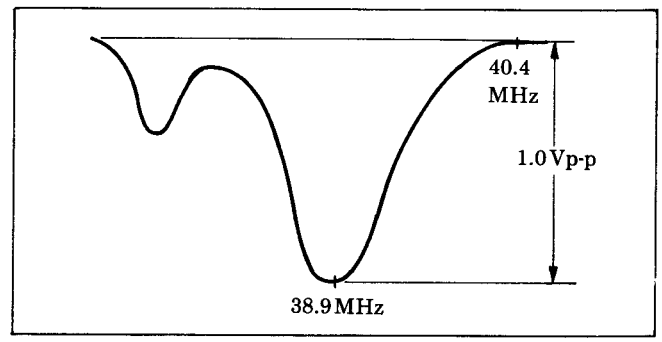


Fig. 57

8. Connect the 100Ω resistor between TP752 and TP753 and remove the JIG.
9. Adjust the output of the VIF Sweep Generator so that the level of waveform becomes 1.0 Vp-p.
10. Release 20 dB attenuation from the attenuator of the VIF Sweep and connect the JIG.
11. Adjust the VR1 so that the level of waveform becomes 1.0 Vp-p.
12. Adjust T752-(C) so that the 31.9 MHz trap becomes minimum.
13. Adjust T751 so that the 33.4 MHz trap becomes minimum.
14. Adjust T752-(A) so that the trap becomes the VIF waveform as shown below.

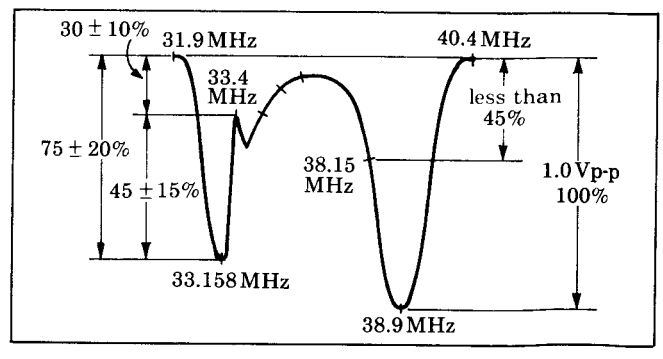


Fig. 58

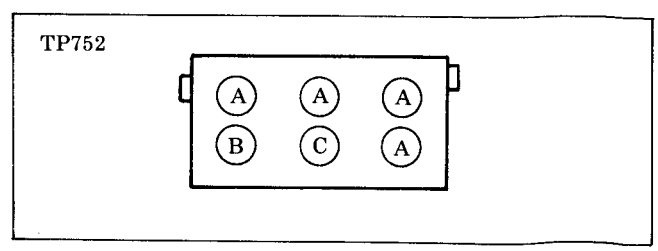
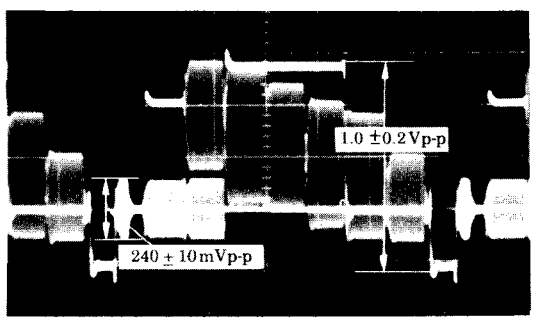


Fig. 59

2-5-40. CONFIRMATION OF VIDEO LEVEL AND BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	VIDEO LEVEL 1.0 ± 0.2Vp-p BURST LEVEL 240 ± 20mVp-p	

1. Supply the RF COLOUR BAR SIGNAL to RF IN TERMINAL and tune this signal.
2. Set the AFC SW to ON position.
3. Confirm that the video level at TP711 is 1.0 ± 0.2Vp-p.
4. Adjust VR741 so that the burst level becomes 240 ± 20mVp-p as shown below.



TP711 0.5V/10μsec. div.

Fig. 60

DECODER SECTION
Model No.: NV-870EG/EO

2-5-41. TEST EQUIPMENTS

To make adjustment completely, following equipments are required.

1. Digital Volt Meter (D.V.M)
2. Oscilloscope
3. Multi Voice Modulator (M.V.M)
4. Frequency counter
5. Noise Meter
6. B.P.F (1kHz)

2-5-42. PLL OSCILLATION FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7003 TP7004	VR7026 VRR7028		
TAPE	**M. EQ.**	**SPEC.**	
	FREQUEN-CY COUNTER	234.0 ± 2.0Hz 547.2 ± 2.0Hz	

1. Connect the jumper wire between TP7006 and the GND.
2. Connect the Frequency counter to TP7003 and adjust VR7026 for 234.0 ± 2.0Hz.
3. Connect the Frequency Counter to TP7004 and adjust VR7028 for 547.2 ± 2.0Hz.

2-5-43. FM DETECTION TRANSFORMER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7013 TP7011	T754 T755		M.V.M.
TAPE	**M. EQ.**	**SPEC.**	
	M.V.M./ OSCILLO-SCOPE		

1. Supply a video signal to the input of the Multi Voice Modulator.
2. Connect the output of the Multi Voice Modulator to RF Input.
3. Set the channel to CH10.
4. Set the AFC switch to "ON" and the Mode selection switch to "CH1+2" position.
5. Connect the oscilloscope to TP7013.
6. Adjust T754 so that the output level on the oscilloscope becomes maximum.
7. Connect the oscilloscope to TP7011.
8. Adjust T755 so that the output level on the oscilloscope becomes maximum.

2-5-44. STEREO SEPARATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7008	VR7001		M.V.M.
TAPE	**M. EQ.**	**SPEC.**	
	M.V.M./ NOISE METER		

1. Supply a video signal to the input of the Multi Voice Modulator.
2. Connect the output of the Multi Voice Modulator to RF Input.
3. Set the channel to CH10 and the AFC switch to "ON".
4. Tune the Output Frequency of the Multi Voice Modulator for CH10 of the deck and place the mode selection switch to "STEREO" position.
5. Connect the Noise Meter to TP7008 and set the mode switch to Right of the Multi Voice Modulator (1kHz).
6. Adjust VR7001 so that the indication of the Noise Meter becomes minimum.

2-5-45. PILOT SIGNAL TRANSFORMER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7005	T7001		M.V.M.
TAPE	M. EQ.	SPEC.	
	M.V.M./ OSCILLO-SCOPE		

1. Supply a video signal to the input of the Multi Voice Modulator.
2. Connect the output of the Multi Voice Modulator to RF Input.
3. Set the Channel to CH10 and set the AFC switch to "ON".
4. Tune the output frequency of the multi Voice Modulator for CH10 of the deck and place the mode selection switch to "STEREO" position.
5. Connect the oscilloscope to TP7005.
6. Adjust T7001 so that the level of the waveform becomes maximum and also DC level of the waveform becomes maximum.

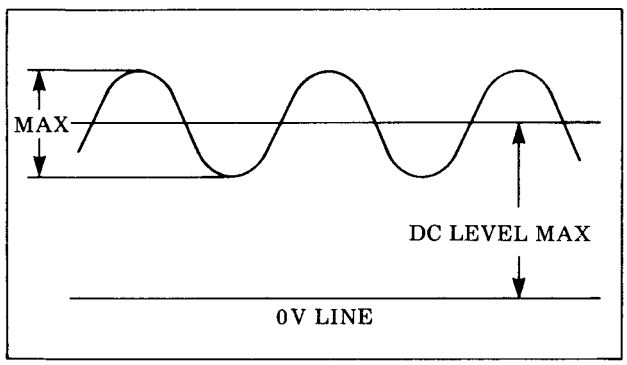


Fig. 61

2-5-46. AUDIO OUTPUT LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7008 TP7009	VR7044 VR7040		M.V.M.
TAPE	M. EQ.	SPEC.	
	M.V.M./ OSCILLO-SCOPE	100 ± 5mVrms	

1. Supply a video signal to the Input of the Multi Voice Modulator.
2. Connect the output of the Multi Voice Modulator to RF Input.
3. Set the Channel to CH10 and the AFC Switch to "ON".
4. Tune the output frequency of the Multi Voice Modulator for CH10 of the deck and place the mode selection switch to STEREO.
5. Connect the oscilloscope to TP7008.
6. Adjust VR7044 so that indication of the Noise Meter becomes 100 ± 5mVrms.
7. Connect the oscilloscope to TP7009.
8. Adjust VR7040 so that indication of the Noise Meter becomes 100 ± 5mVrms.

2-5-47. MAIN AUDIO OUTPUT LEVEL

TP	ADJ.	MODE	INPUT
TP710	VR751		M.V.M.
TAPE	M. EQ.	SPEC.	
	M.V.M./ OSCILLO-SCOPE	85 ± 5mVrms	

1. Supply a video signal to the input of Mult Voice Modulator.
2. Set the Multi Voice Modulation mode of Multi Voice Modulator to DUAL M1.
3. Connect the output of the Multi Voice Molulator to RF Input.
4. Set the AFC Switch to "ON".
5. Connect the Noise Meter to TP710.
6. Adjust VR751 so that the waveform becomes within 85 ± 5mVrms.

2-5-48. BUZZ ADJUSTMENT

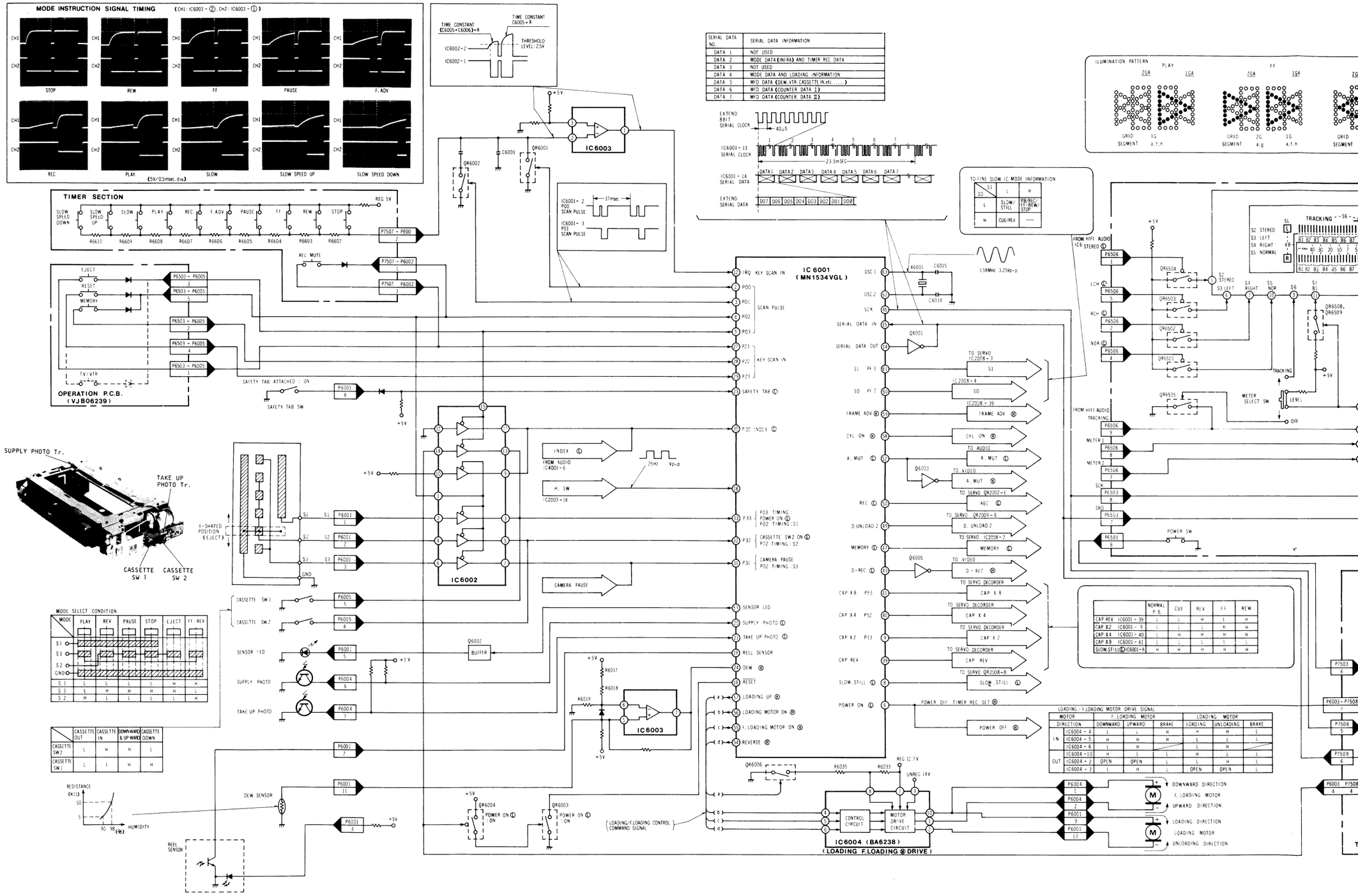
TP	ADJ.	MODE	INPUT
TP7009	T753		M.V.M.
TAPE	M. EQ.	SPEC.	
	M.V.M./ NOISE METER	LESS THAN 300μVrms	

1. Supply a Video Signal to the input of the Multi Voice Modulator.
2. Set the Multi Voice Modulation Mode of Multi Voice Modulator to SINGLE M2, and turn Voice modulation to "OFF" and set the AFC Switch to "ON".
3. Connect the Noise Meter to TP7009.
4. Adjust T753 so that the indication of the Noise Meter becomes minimum.

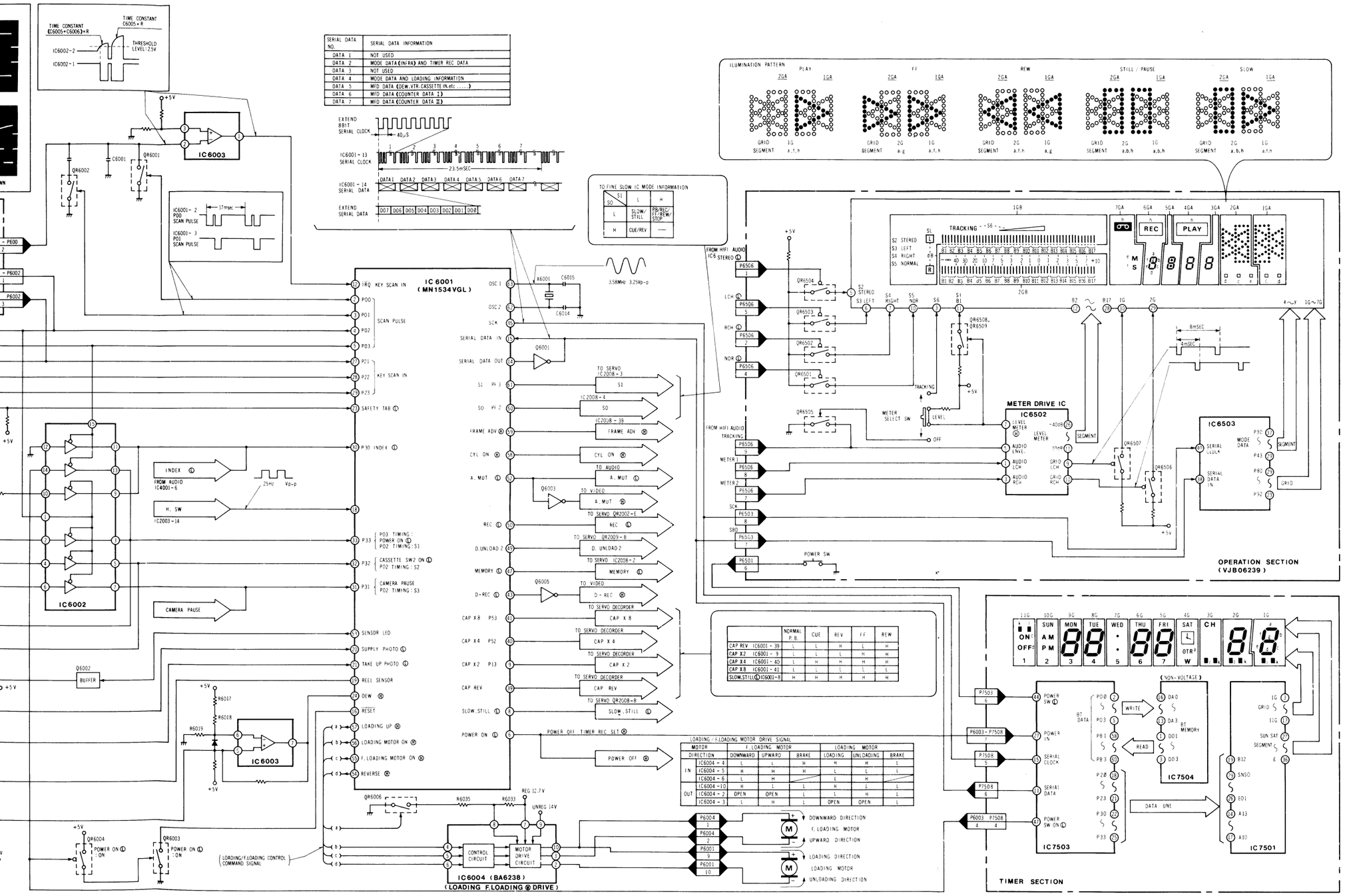
Memo

SECTION 3
BLOCK DIAGRAM & SCHEMATIC DIAGRAM

3-1. SYSTEM CONTROL BLOCK DIAGRAM

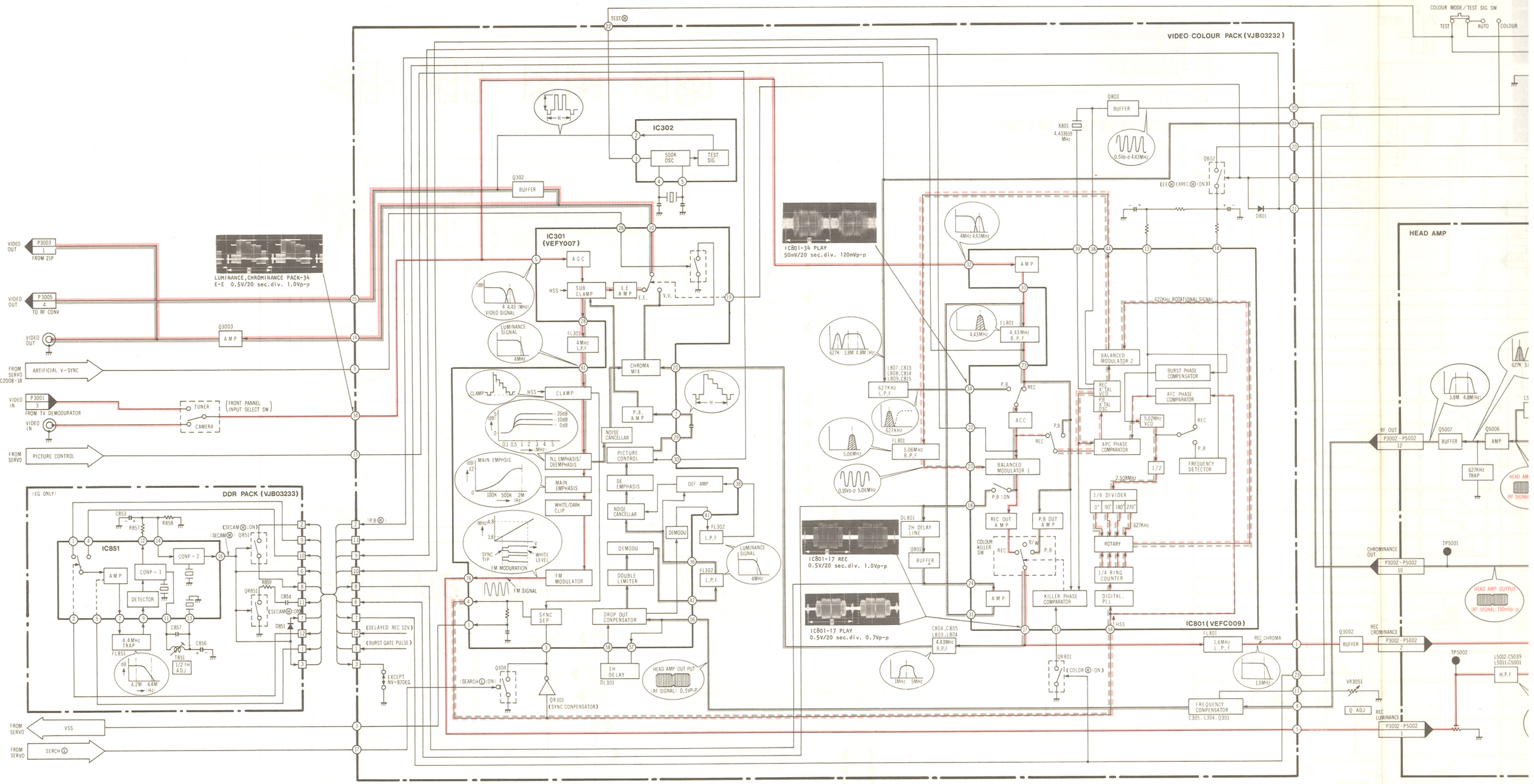


GRAM



Next Page:
LUMINANCE & CHROMINANCE Section

3-2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM



VIDEO COLOUR PACK (VJB03232)

IC302

TEST

500K OSC

TEST SIG

E.E AMP

V.V.

E.E.

CHROMA MIX

P.B. AMP

NOISE CANCELLAR

PICTURE CONTROL

DE EMPHASIS

DEF AMP

NOISE CANCELLAR

DEMODU

DOUBLE LIMITER

L.P.F

FL302

LUMINANCE SIGNAL

4MHz

DROP OUT COMPENSATOR

1H DELAY

DL301

HEAD AMP OUT PUT

RF SIGNAL: 0.5VP-P

IC801-34 PLAY
50mV/20 sec.div. 120mVp-p

627K 3.8M 4.8MHz

627KHz L.P.F

L807, C813
L808, C814
L809, C815

627KHz

5.06MHz

FL801

5.06MHz B.P.F

0.16Vp-p 5.06MHz

IC801-17 REC
0.5V/20 sec.div. 1.0Vp-p

IC801-17 PLAY
0.5V/20 sec.div. 0.7Vp-p

DL801

2H DELAY LINE

Q803

BUFFER

X801
4.433619 MHz

0.5Vp-p 4.43MHz

Q802

(EE:M EXREC:M :ON)

D801

4MHz 4.43MHz

A.M.P

4.43MHz

FL801

4.43MHz B.P.F

627KHz ROTATIONAL SIGNAL

BALANCED MODULATOR 2

BURST PHASE COMPENSATOR

AFC PHASE COMPARATOR

REC X'TAL VCO

P.B X'TAL OSC

5.02MHz VCO

APC PHASE COMPARATOR

1/2

FREQUENCY DETECTOR

2.508MHz

1/4 DIVIDER

0° 90° 180° 270°

627KHz

ROTARY

1/4 RING COUNTER

DIGITAL PLL

KILLER PHASE COMPARATOR

HSS

ACC

P.B

REC

BALANCED MODULATOR 1

P.B :ON

REC OUT A.M.P

P.B OUT A.M.P

COLOUR KILLER SW

B/W

A.M.P

IC801 (VEFC009)

C804, C805
L803, L804
4.43MHz B.P.F

1MHz 5MHz

OR801

(COLOR:M :ON)

FL801

1.6MHz L.P.F

REC CHROMA

1.6MHz

FREQUENCY CONPENSATOR

C305, L304, Q301

Q3002

BUFFER

REC CROMINANCE

P3002 - P5002
2

VR3051

Q ADJ

REC LUMINANCE

P3002 - P5002
1

COLOUR MODE/TEST SIG SW

TEST AUTO COLOUR

QR3001

Q3005

Q3004
(EXCEPT REC I :ON)

V - V I

FROM SYSTEM CONTROL

P3001
3

P.B M

P3005
1

REG 12V
FROM DEMODU.

EXCEPT REC I

FROM SYSTEM CONTROL

4.43MHz

TO SERVO
IC2002 - 15
IC2008 - 34

REG 5V

FROM POWER

E - E M

FROM SYSTEM CONTROL
IC6001 - 51

EXCEPT REC 5V

TO AUDIO

HEAD AMP

HEAD SW INPUT
25Hz 5Vp-p

IC5001

RF OUT
P3002 - P5002
12

Q5007

BUFFER

Q5006

AMP

627KHz TRAP

HEAD AMP OUTPUT
RF SIGNAL: 180mVp-p

627K 3.8M 4.8MHz

3.8M 4.8MHz

L5005-C5013

PHASE COMPENSATOR

AGC DET

AMP DETECTOR

AGC AMP

PEAKING

H.A SW

ENVE DETECTOR

AMP DETECTOR

HEAD SW

AMP

QR5001

Q5008

Q5009

CHROMINANCE OUT

P3002 - P5002
10

TP5001

HEAD AMP OUTPUT
RF SIGNAL: 150mVp-p

TP5002

L5012, C5039
L5011, C5001

H.P.F

Q5001~Q5004

REC AMP

dB

627KHz

H.P.F REMOVES FM SIGNAL AND NOISE COMPONENTS AROUND CHROMA SIGNAL AREAS BEFORE CHROMA MIXING.

FM SIGNAL

MHz

R5038

TP5030

Q5010
(REC:ON)

TP5007

TP5008

R5037

Q5011
(REC:ON)

Q5005
(P.B:ON)

P5002 - P3002
3

EXCEPT REC 5V

P5002
9

ENVE SELECT SIG.
TO IC2008-1

P5002
6

CAP REV M
FROM IC6001-39

P5002
8

HEAD AMP SW
FROM IC2008-7

P5002
13

HEAD SW
FROM IC2008-40

AUDIO MUTE I

IC6001-52

AUDIO MUTE I

P5001
4

P5001
7

P5001
6

P5001
5

P5001
2

P5001
3

P5001
4

VIDEO HEAD L

VIDEO HEAD R

VIDEO HEAD R'

VIDEO HEAD L'

R' L'

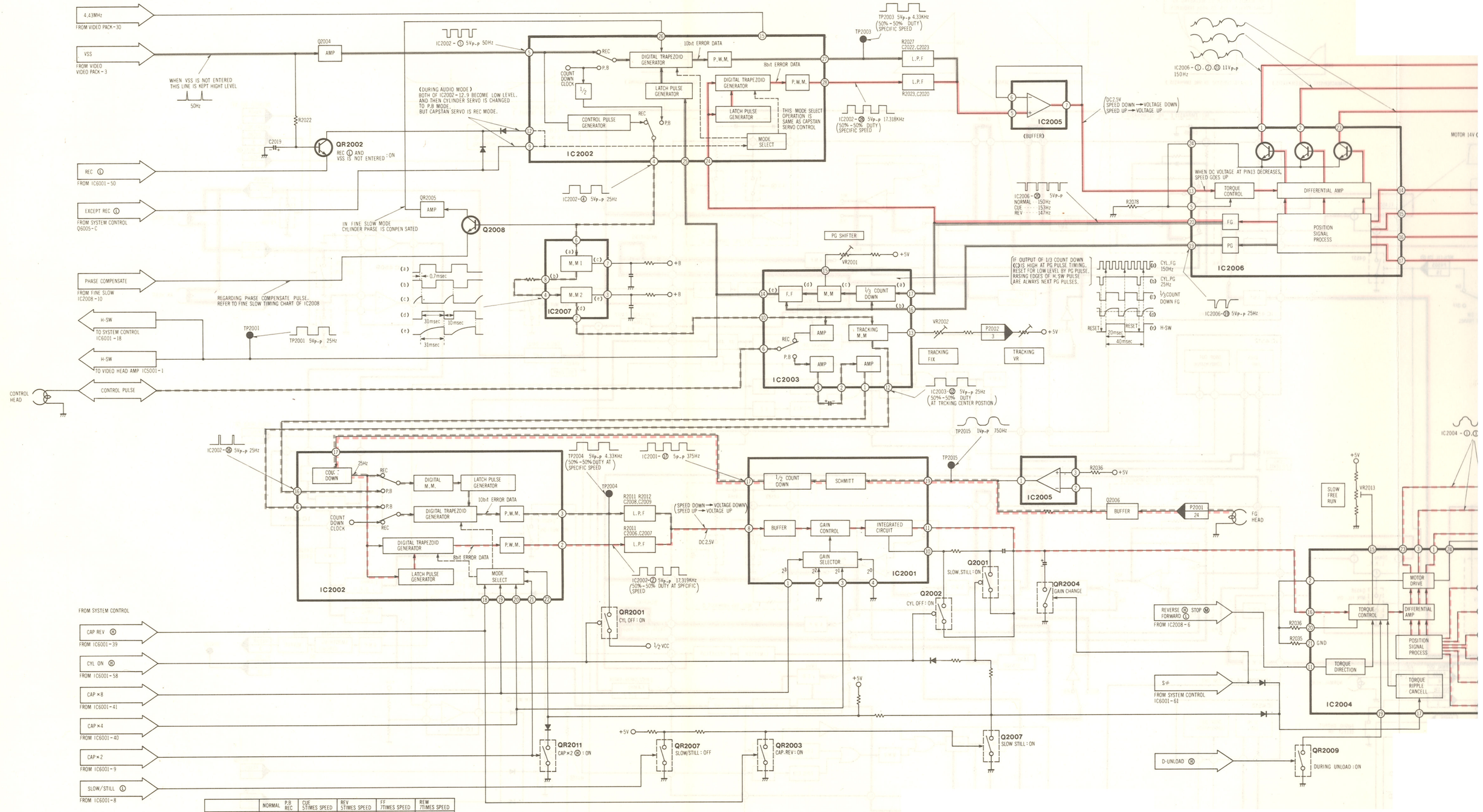
R L'

2-DOBULE-VIDEO HEAD SYSTEM

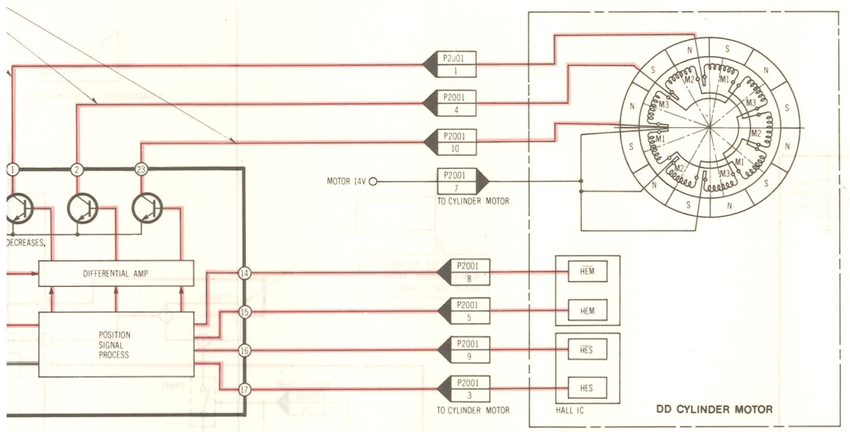
MODE / HEAD	REC	PLAY		
		NORMAL	SEARCH	STILL
L'	○	○	○	○
R'	○	○	○	—
L	—	—	○	○
R	—	—	○	○

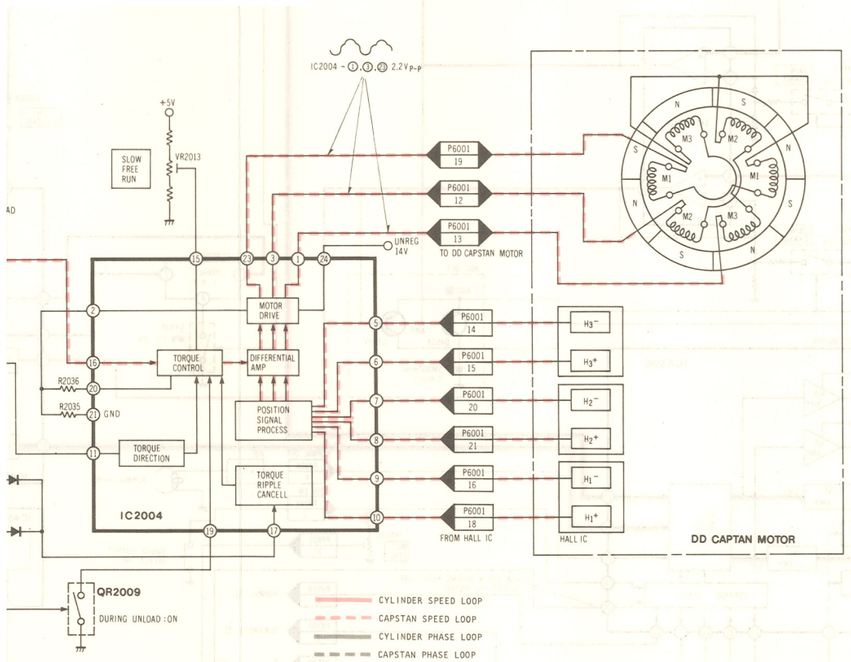
MAIN SIGNAL PATH IN REC MODE.
MAIN SIGNAL PATH IN PLAYBACK MODE.
5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE.
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE.

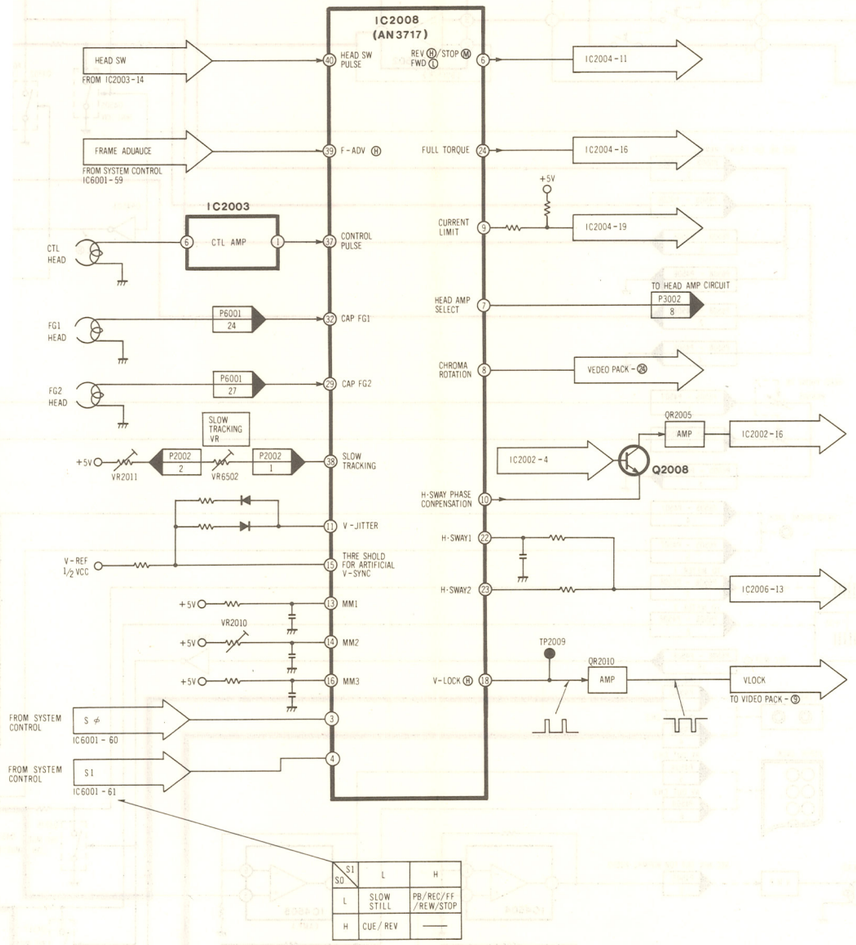
3-3. SERVO BLOCK DIAGRAM



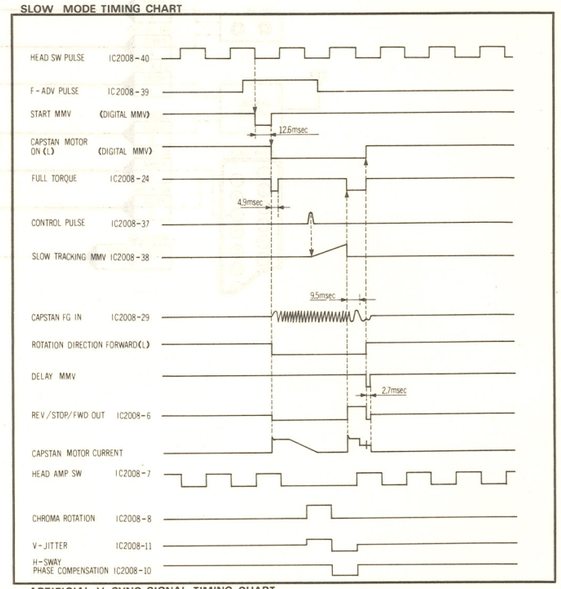
		NORMAL P.B REC	CUE 5TIMES SPEED	REV 5TIMES SPEED	FF 7TIMES SPEED	REW 7TIMES SPEED
CAP REV	IC2002-18	L	L	H	L	H
CAP×8	IC2002-19	L	L	L	L	L
CAP×4	IC2002-20	L	H	H	H	H
CAP×2	IC2002-21	L	L	L	H	H
CAP×0	IC2002-22	H	H	H	H	H



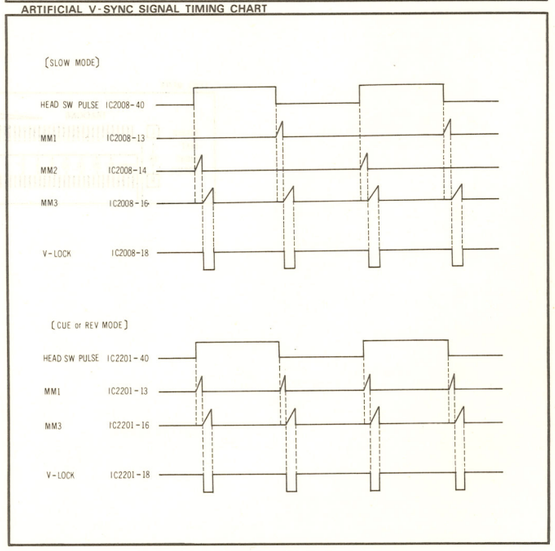




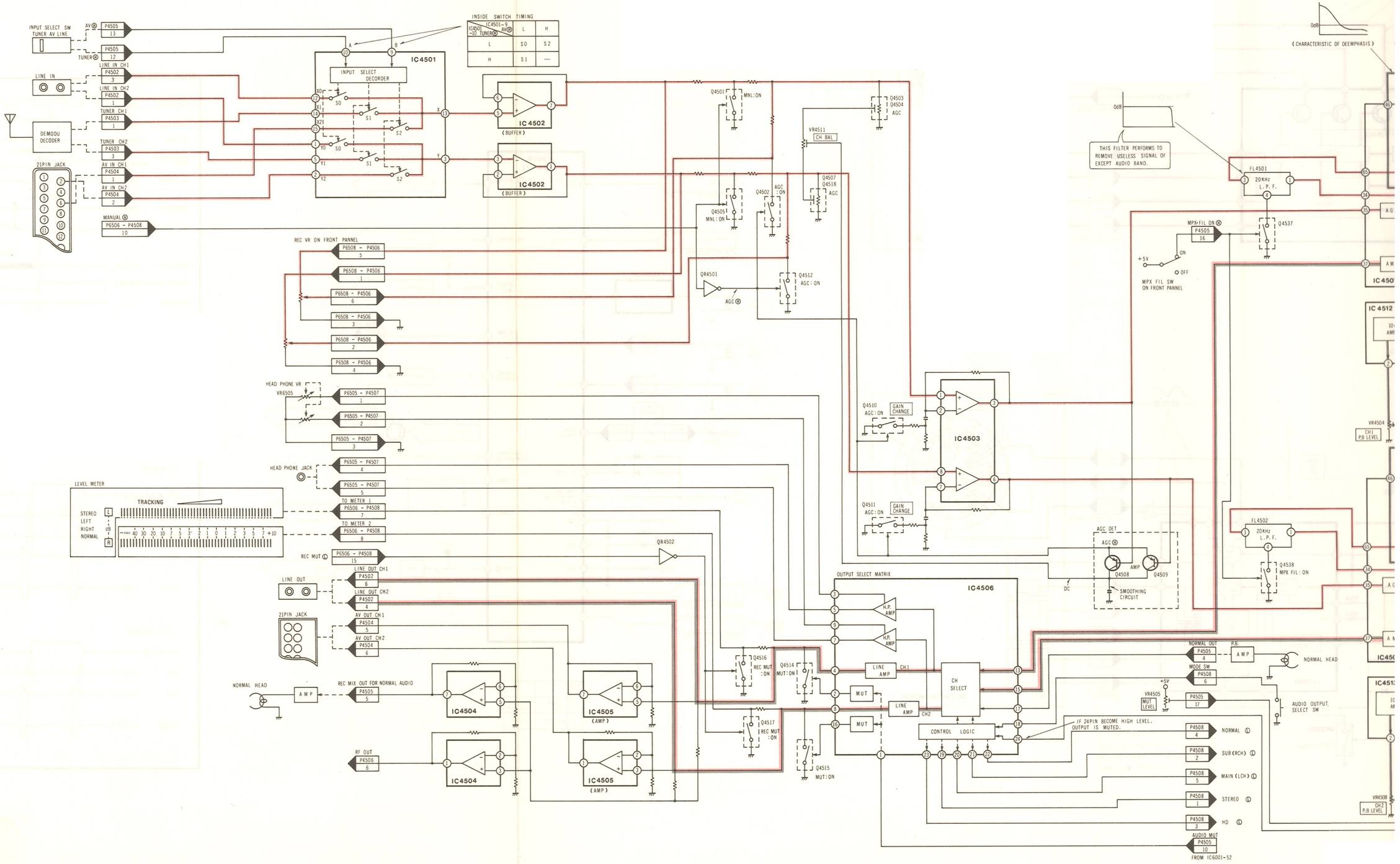
SLOW MODE TIMING CHART



ARTIFICIAL V-SYNC SIGNAL TIMING CHART



3-4. FM AUDIO BLOCK DIAGRAM



Back Page:
SERVO Section

HIGH FREQUENCY RANGE OF INPUT SIGNAL IS BOOSTED PRIOR TO RECORDING SO THAT PREVENT S/N OF HIGH FREQUENCY.

(CHARACTERISTIC OF DEEMPHASIS)

(CHARACTERISTIC OF PRE EMPHASIS)

(CHARACTERISTIC OF INPUT LEVEL SENSOR)

(CHARACTERISTIC OF VCA)

(CHARACTERISTIC OF WEIGHING)

(CHARACTERISTIC OF ENCODE OUTPUT)

THE LEVEL OF THIS PART IS LOWERED BY THE WEIGHTING CIRCUIT IN ORDER TO AVOID AMPLIFICATION PRIOR TO RECORDING.

(CHARACTERISTIC OF DECORD OUTPUT)

REC: EMPHASIS I PB: DEEMPHASIS I

REC: PRE EMPHASIS II

REC: PRE EMPHASIS I PB: DEEMPHASIS I

REC: PRE EMPHASIS II

IC4507 (A-7) FOR CH1

IC4508 (A-7) FOR CH2

IC4512

IC4513

IC4509

IC4510

IC4511

FL4501 20KHz L.P.F.

FL4502 20KHz L.P.F.

FL4503 1.4MHz B.P.F.

FL4504 1.8MHz B.P.F.

L4502, C4636, R4634 1.8MHz L.P.F.

C4576, L4501, C4577 1.4MHz L.P.F.

BUFFER AMP

V.C.A.

AMP

AGC

LEVEL SENSOR

LIMITTER

DEVIATION

VCO

PHASE COMPARATOR

RF AMP

MUT

HOLD

MMV

TPG(1)

TPG(2)

DOC DET

X2

MIX

WEIGHTING

REC AMP

SMOOTHING CIRCUIT

BUFFER

SW

10dB AMP

DROP OUT COMPENSATOR

Q4537 MPX FIL ON

Q4538 MPX FIL: ON

Q4520 REC MUT: ON

Q4521 REC MUT: ON

Q4523 ~ Q4526 REC AMP

Q4527 PB: ON

Q4528 REC: ON

Q4529 REC: ON

Q4530 Q4531

Q4532

Q4533

QR4503 E-E/FM MUT: ON

QR4504

VR4503 REC CURR

VR4504 CH1 P.B LEVEL

VR4508 CH2 P.B LEVEL

DELAYED REC 5V P4505 3

EXCEPT REC 5V P4505 8

REC MUTE P4505 15

COMMON P4501 2

AL HEAD P4501 3

AR HEAD P4501 1

AUDIO HEAD SW P4505 7

TRACKING SIG P4508 9

RF SIG P4505 18

TP4516

AUDIO MUT P4505 10

E-E P4505 11

MPX·FIL ON P4505 16

NORMAL OUT P4505 4

MODE SW P4508 6

P4505 17

NORMAL P4508 4

SUB(RCH) P4508 2

MAIN(LCH) P4508 5

STEREO P4508 1

HD P4508 3

AUDIO MUT P4505 10 FROM IC6001-52

NORMAL HEAD

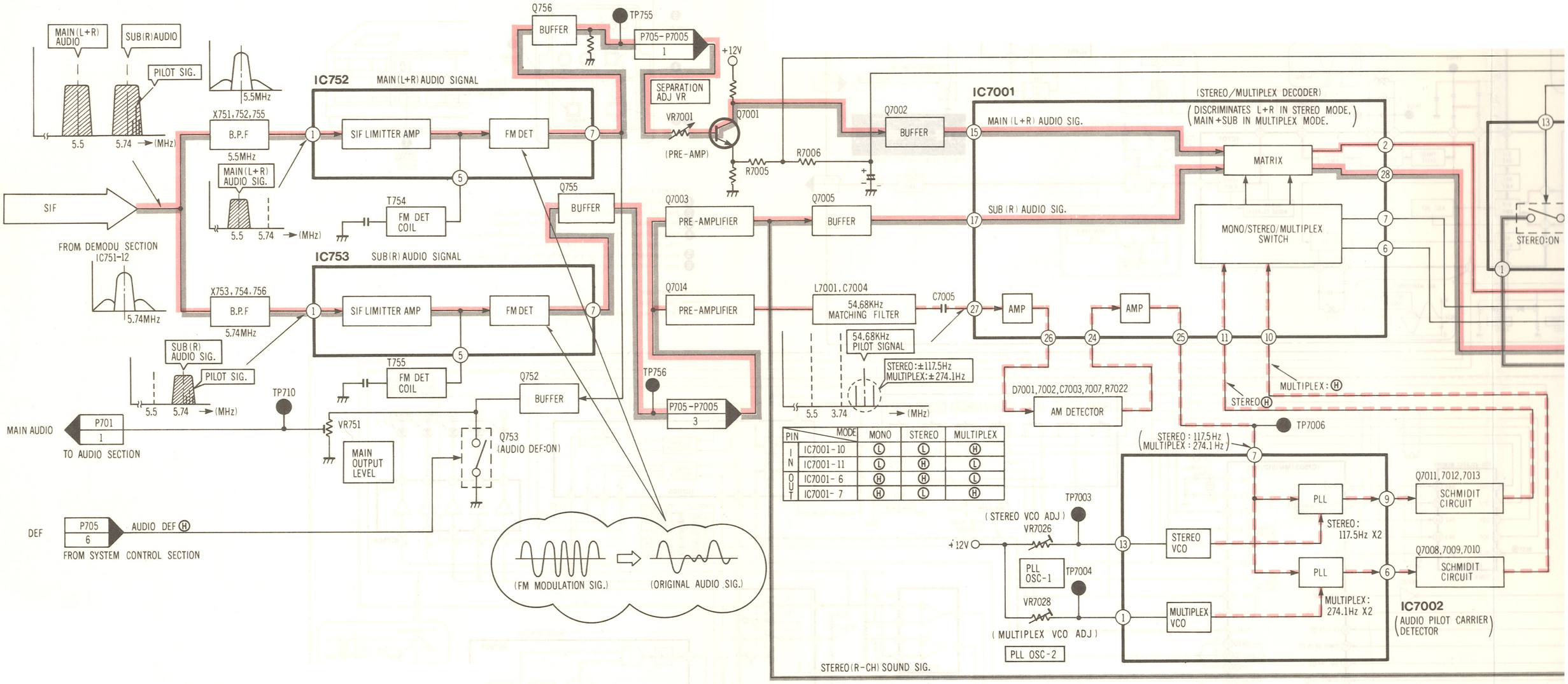
AUDIO OUTPUT SELECT SW

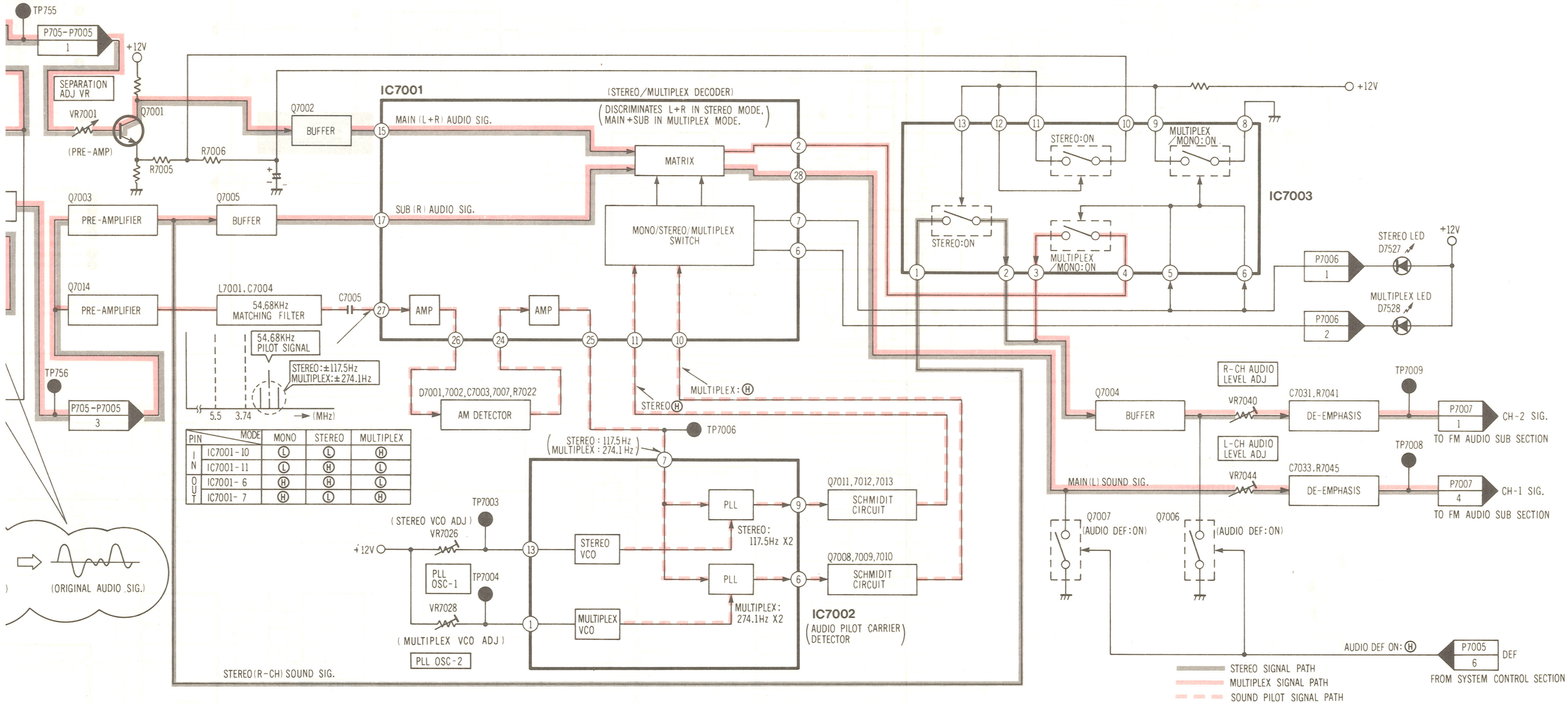
FM MUT

MAIN SIGNAL PATH IN REC MODE.

MAIN SIGNAL PATH IN PLAYBACK MODE.

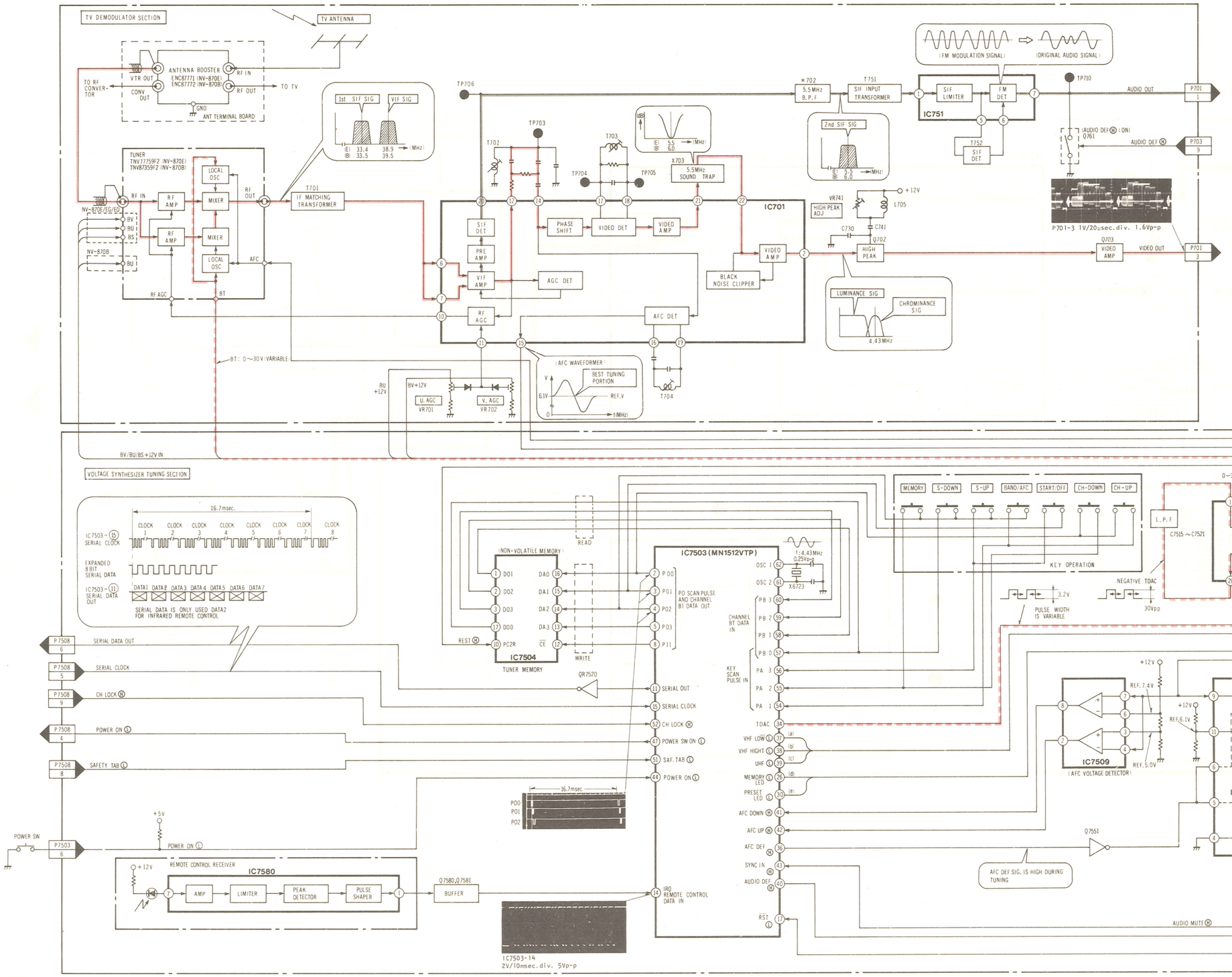
3-5. DECODER BLOCK DIAGRAM (NV-870EG/EO)

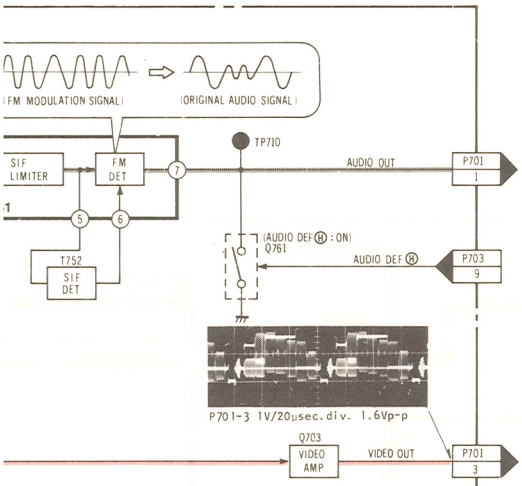


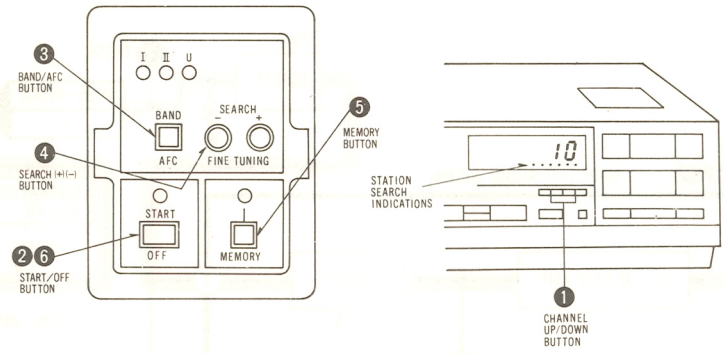


Next Page:
TUNER & TV DEMODULATOR Section

3-6. TUNER & TV DEMODULATOR BLOCK DIAGRAM (NV-870E/B)



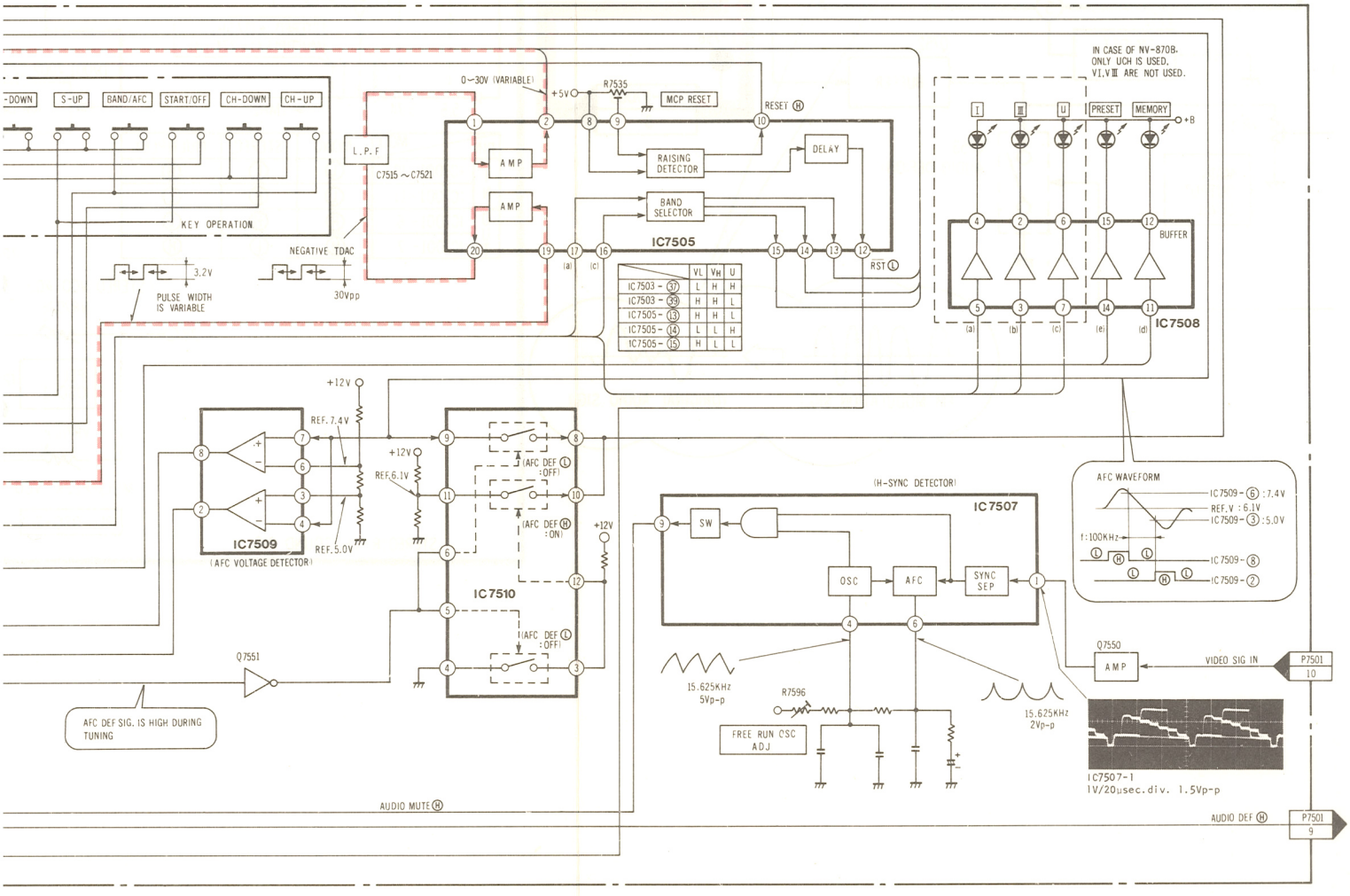




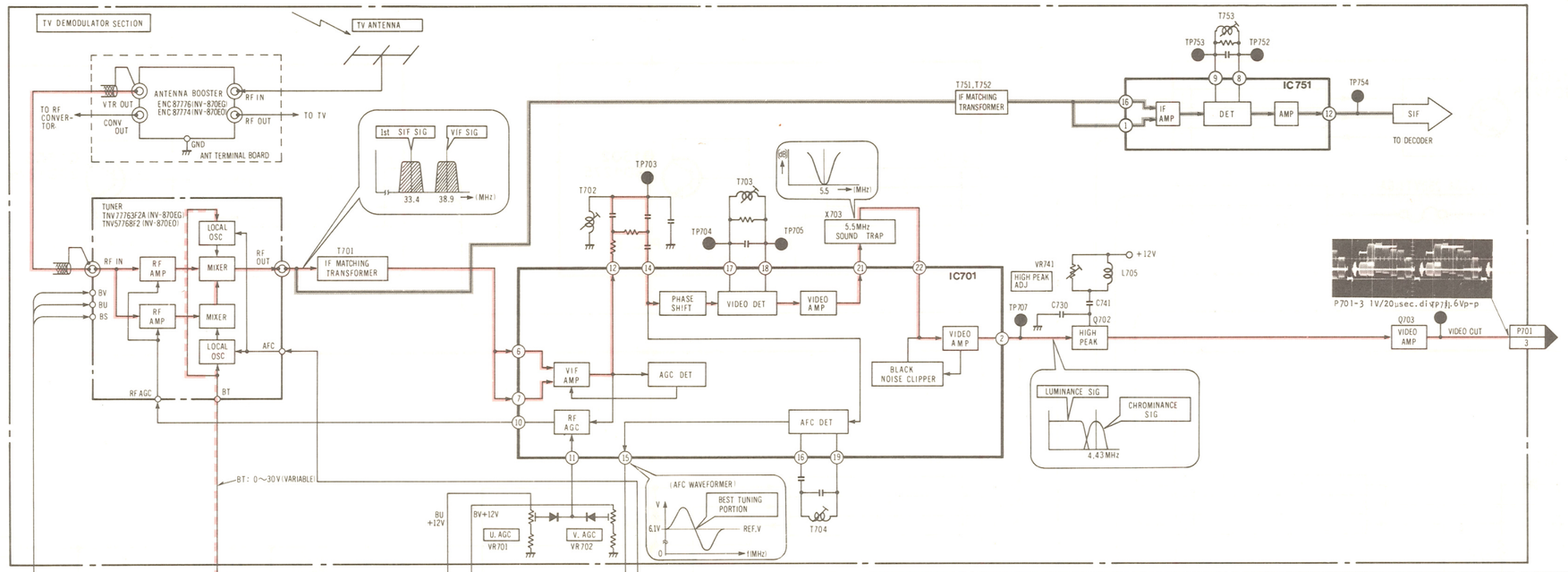
CH SELECT & TUNING PROCEDURE

1. Select the channel.
2. Push the START/OFF Button, so the START LED light up.
3. Set the BAND/AFC Button to the 'I','II','U' position.
4. Push the SEARCH Button to search the TV station automatically.
   (The START LED will flash on and off during search.)
5. Push the MEMORY Button, so the MEMORY LED light up a moment.
6. Push the START/OFF Button to OFF.

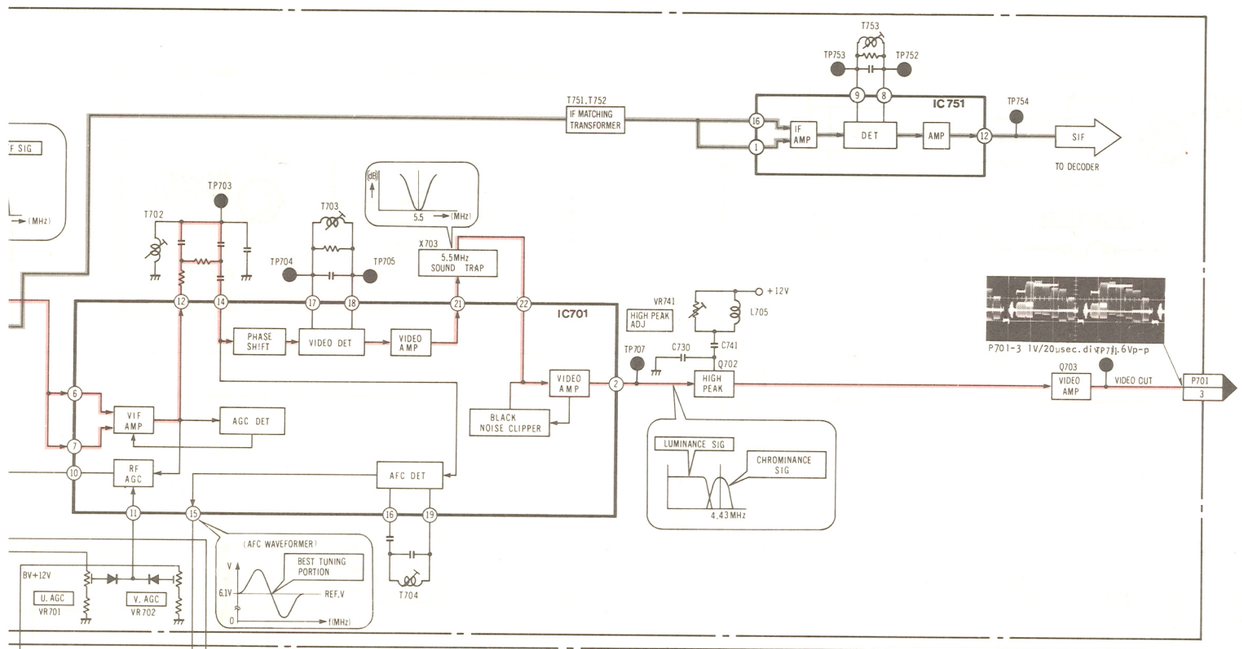
VIDEO LOOP
AUDIO LOOP
BT (CHANNEL) DATA TRANSMISSION LOOP

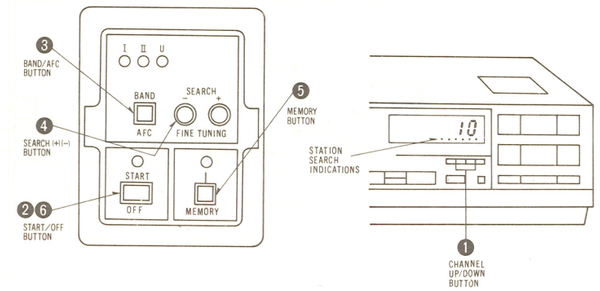


3-7. TUNER & TV DEMODULATOR BLOCK DIAGRAM (NV-870EG/EO)



OCK DIAGRAM (NV-870EG/EO)

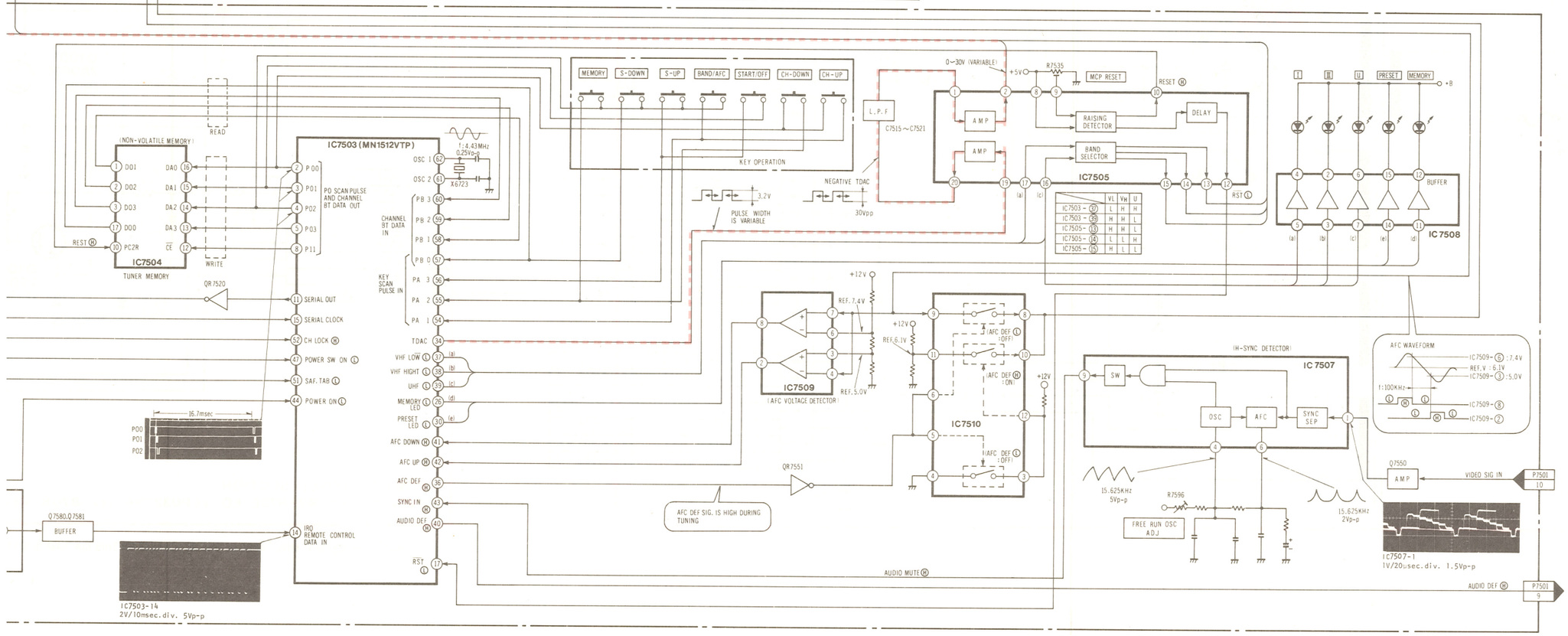




CH SELECT & TUNING PROCEDURE

1. Select the channel.
2. Push the START/OFF Button, so the START LED light up.
3. Set the BAND/AFC Button to the 'I','II','U' position.
4. Push the SEARCH Button to search the TV station automatically (The START LED will flash on and off during search.)
5. Push the MEMORY Button, so the MEMORY LED light up a moment.
6. Push the START/OFF Button to OFF.

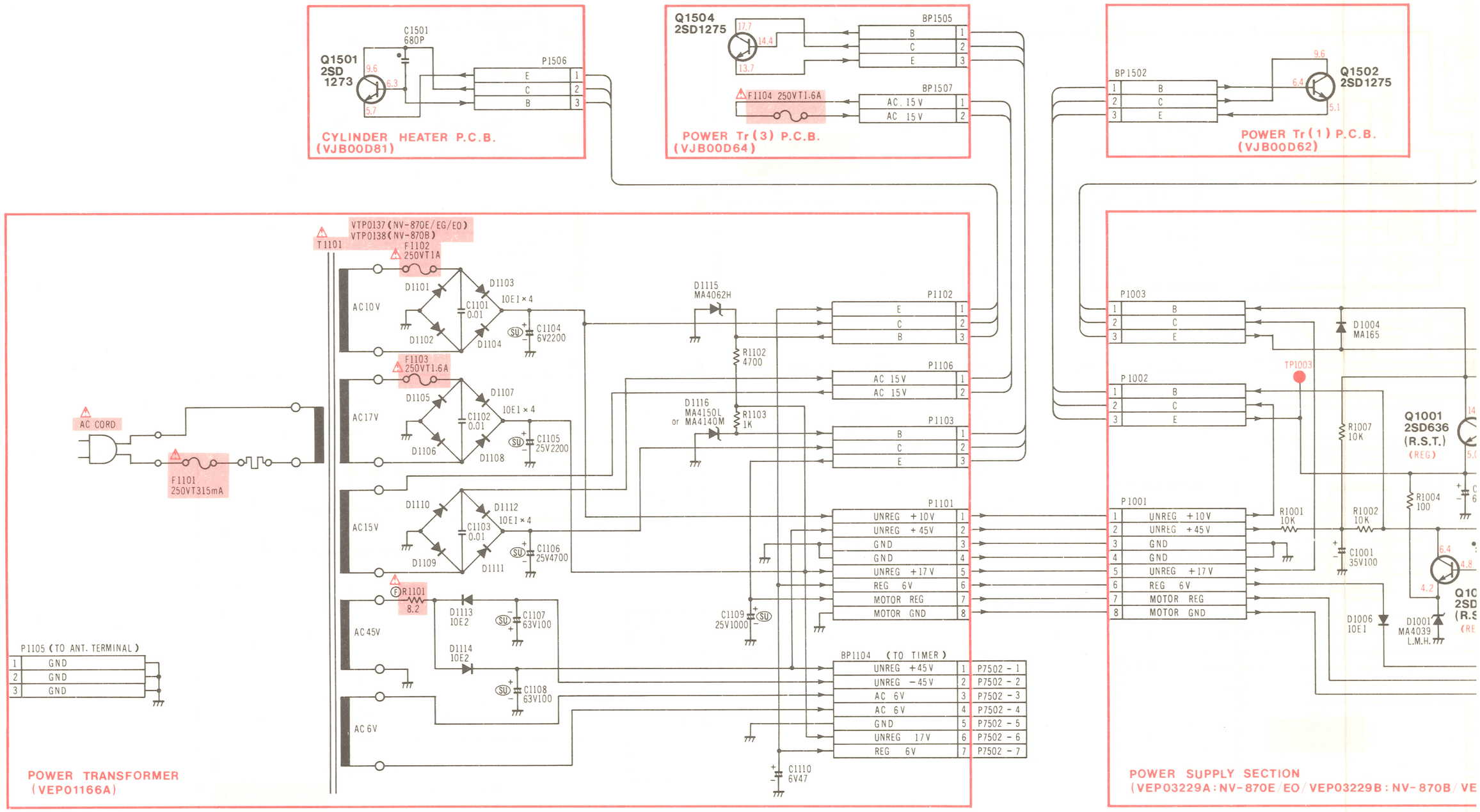
VIDEO LOOP
AUDIO LOOP
BT (CHANNEL) DATA TRANSMISSION LOOP



	VL	VH	U
IC7503 - (37)	L	H	H
IC7503 - (38)	H	H	L
IC7505 - (13)	H	H	L
IC7505 - (14)	L	L	H
IC7505 - (15)	H	L	L

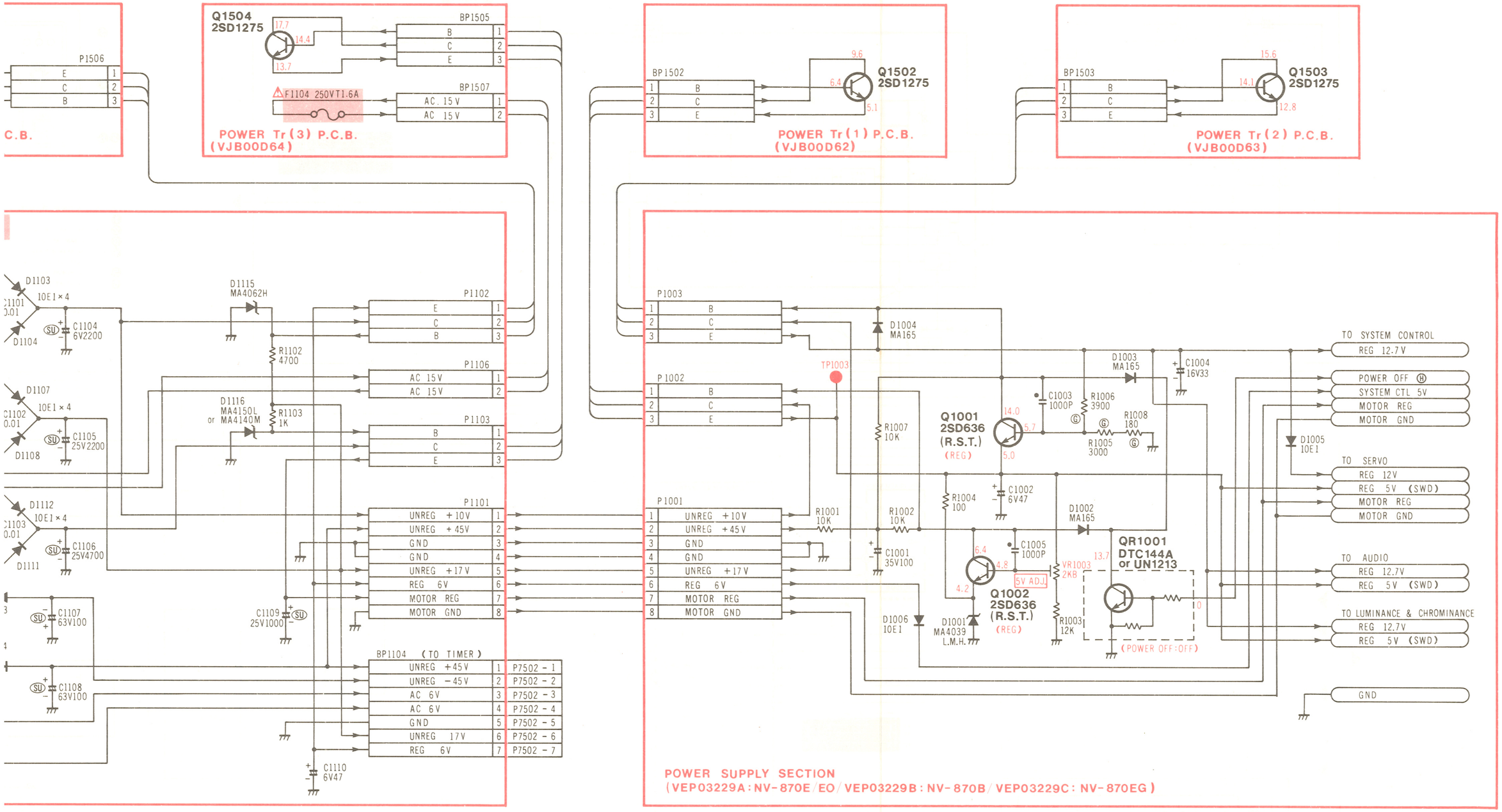
Next Page:
POWER SUPPLY Section

3-8. POWER TRANSFORMER & POWER SUPPLY SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STO

Y SCHEMATIC DIAGRAM



POWER SUPPLY SECTION
(VEP03229A : NV-870E/EO/ VEP03229B : NV-870B/ VEP03229C : NV-870EG)

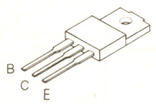
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

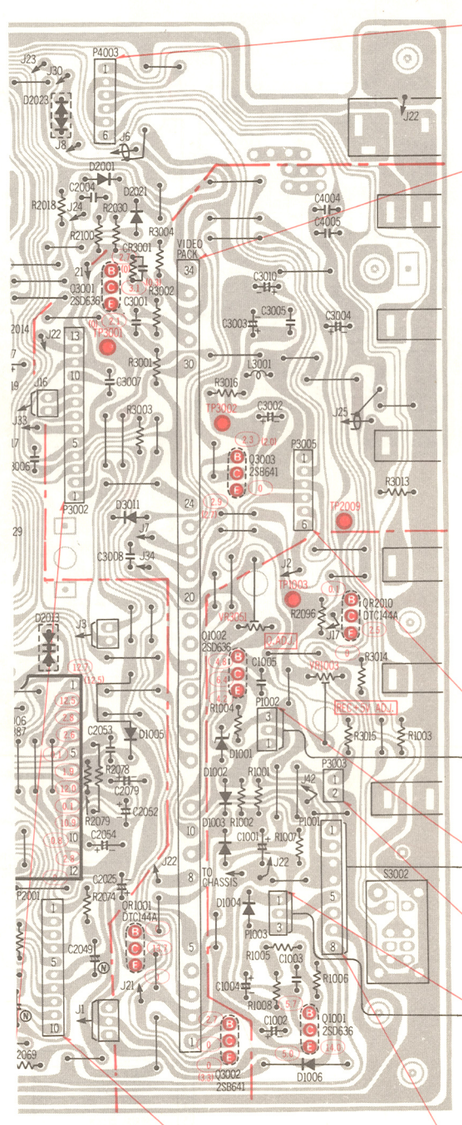
3-9. POWER TRANSFORMER & POWER SUPPLY in Main Circuit Board (VEP01166A, VEP03229A: NV-870E/EO, VEP03229B: NV-870B, VEP03229C: NV-870EG)

ICs & TRANSISTORs INFORMATION

2SD636



2SD1275
2SD1273



P4003 (TO FM AUDIO)	
1	LINE CH2
2	GND
3	LINE CH1
4	LINE OUT CH2
5	GND
6	LINE OUT CH1

VIDEO PACK	
1	REC CHROMA
2	GND
3	VSS
4	———
5	REC.Y
6	———
7	———
8	RF IN
9	ARTIFICIAL V-SYNC
10	E-E Ⓗ
11	Q.VR
12	D.O.C.
13	PICTURE CTL
14	VIDEO OUT
15	CONVERTER OUT
16	———
17	SEARCH Ⓛ
18	———
19	———
20	REG 5V
21	EXCEPT REC Ⓗ
22	TEST Ⓗ
23	COLOUR Ⓗ
24	ROTARY SW
25	———
26	———
27	———
28	———
29	———
30	4.43MHz
31	P.B CHROMA IN
32	GND
33	REC Ⓗ
34	VIDEO IN

P3005 (TO RF CONV.)	
1	12V (SWD)
2	AUDIO
3	GND
4	VIDEO
5	P.B. Ⓗ/VTR 12V
6	REG 12V

P1002	
1	B
2	C
3	E

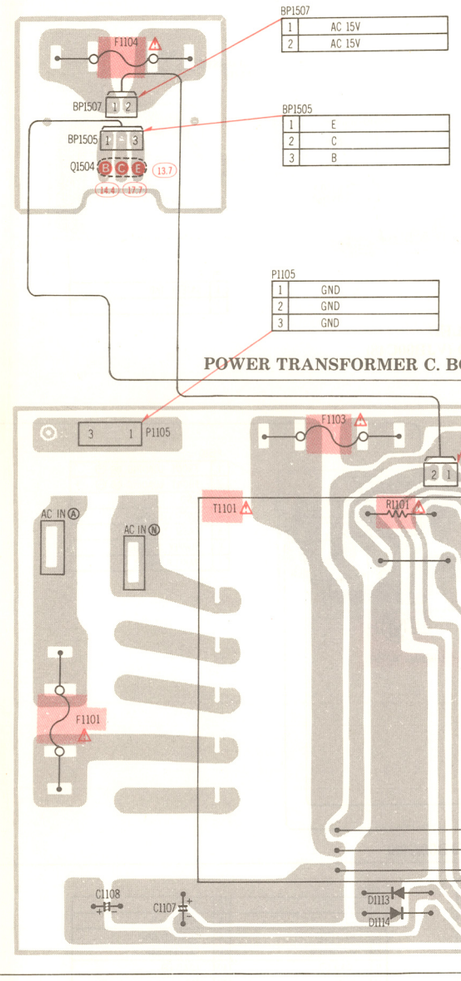
P3003 (TO 21 PIN CONNECTOR)	
1	VIDEO OUT
2	GND

P1003	
1	B
2	C
3	E

P2001 (TO CYLINDER)	
1	M2
2	VH+
3	HES
4	M3
5	HEM
6	GND
7	M COM
8	HEM
9	HES
10	M1

P1001	
1	UNREG +10V
2	UNREG +45V
3	GND
4	GND
5	UNREG +17V
6	REG 6V
7	MOTOR REG
8	MOTOR GND

POWER Tr.(3) C. BOARD (VJB00D64)



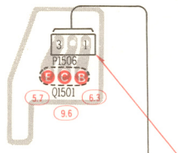
BP1507	
1	AC 15V
2	AC 15V

BP1505	
1	E
2	C
3	B

P1105	
1	GND
2	GND
3	GND

P1106	
1	AC 15V
2	AC 15V

CYLINDER HEATER C. BOARD (VJB00D81)



P1506	
1	B
2	C
3	E

POWER TRANSFORMER C. BOARD UNIT (VEP01166A)

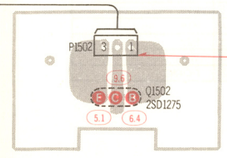
P1103	
1	B
2	C
3	E

P1102	
1	E
2	C
3	B

P1101	
1	UNREG +10V
2	45V
3	GND
4	GND
5	UNREG +17V
6	REG 6V
7	MOTOR REG
8	MOTOR GND

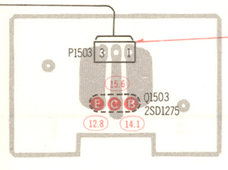
BP1104 (TO TIMER)	
1	+45V
2	−45V
3	AC 6V
4	AC 6V
5	GND
6	17V
7	REG 6V

POWER Tr. (1) C. BOARD (VJB00D62)



P1502	
1	E
2	C
3	B

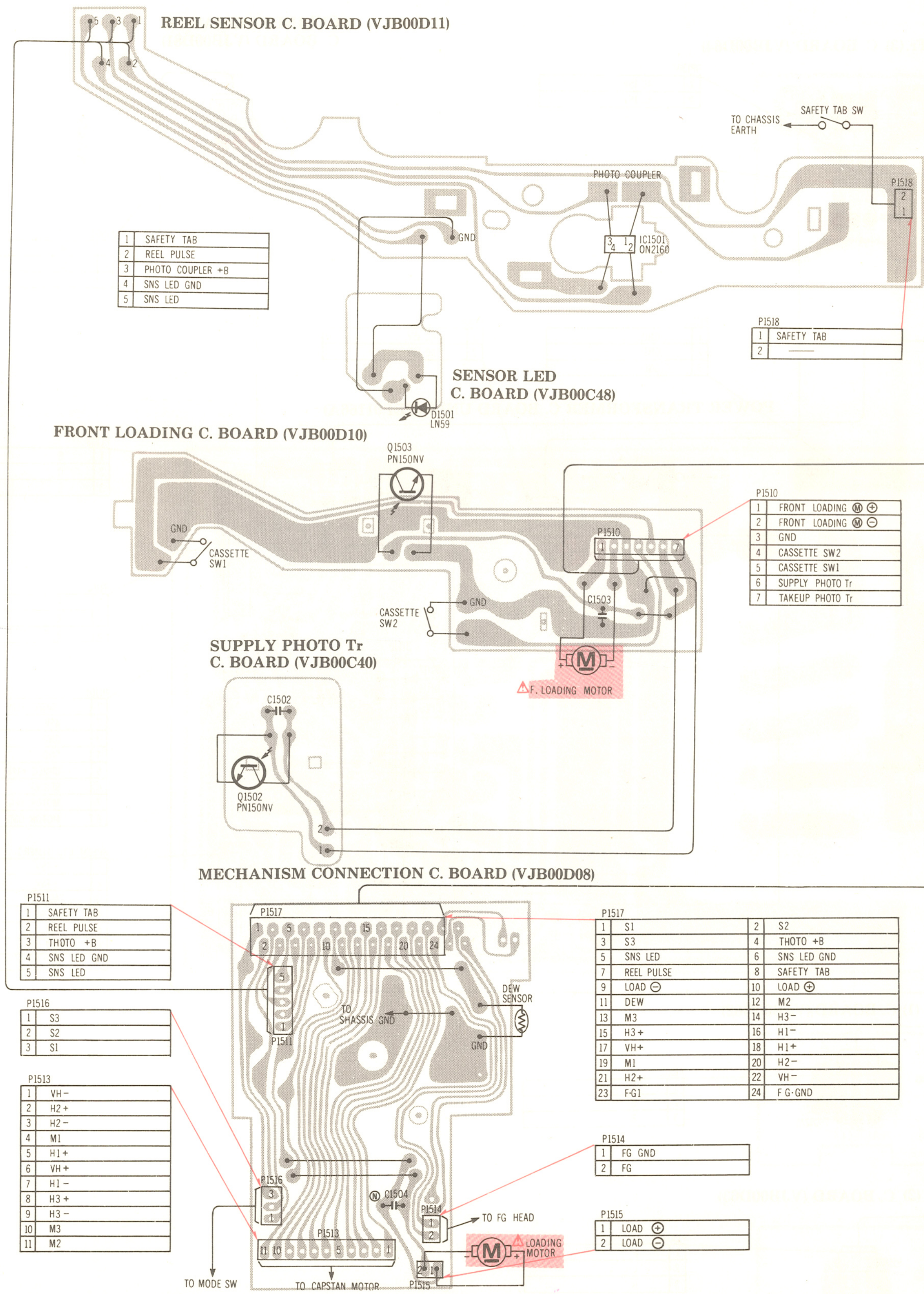
POWER Tr. (2) C. BOARD (VJB00D63)



P1503	
1	E
2	C
3	B

3—9

3-10. SYSTEM CONTROL Section in Main Circuit Board
(VEP03229A: NV-870E/EO, VEP03229B: NV-870B, VEP03229C: NV-870EG)



1	SAFETY TAB
2	REEL PULSE
3	PHOTO COUPLER +B
4	SNS LED GND
5	SNS LED

P1518

1	SAFETY TAB
2	——

P1510

1	FRONT LOADING Ⓜ ⊕
2	FRONT LOADING Ⓜ ⊖
3	GND
4	CASSETTE SW2
5	CASSETTE SW1
6	SUPPLY PHOTO Tr
7	TAKEUP PHOTO Tr

P1511

1	SAFETY TAB
2	REEL PULSE
3	THOTO +B
4	SNS LED GND
5	SNS LED

P1516

1	S3
2	S2
3	S1

P1513

1	VH−
2	H2+
3	H2−
4	M1
5	H1+
6	VH+
7	H1−
8	H3+
9	H3−
10	M3
11	M2

P1517

1	S1	2	S2
3	S3	4	THOTO +B
5	SNS LED	6	SNS LED GND
7	REEL PULSE	8	SAFETY TAB
9	LOAD ⊖	10	LOAD ⊕
11	DEW	12	M2
13	M3	14	H3−
15	H3+	16	H1−
17	VH+	18	H1+
19	M1	20	H2−
21	H2+	22	VH−
23	F·G1	24	F G·GND

P1514

1	FG GND
2	FG

P1515

1	LOAD ⊕
2	LOAD ⊖

P4002 (TO FM AUDIO)

1	RF SIG
2	MUT LEVEL
3	MPX FIL ON
4	REC MUTE Ⓛ
5	5V
6	AV Ⓗ
7	TUNER Ⓗ
8	EE Ⓗ 5V
9	A.MUTE 5V
10	DELAYED REC
11	EXCEPT REC
12	A.H.SW
13	RF OUT
14	MIX OUT
15	NORMAL OUT
16	−28V
17	12V
18	GND

P3004 (TO TV DEMODULATOR)

1	AUDIO IN
2	GND
3	VIDEO IN
4	GND
5	+12V

P4004 (TO FM AUDIO) NV-870E/B only

1	TUNER AUDIO
2	GND

P3001 (TO 21 PIN CONNECTOR)

1	VIDEO IN
2	GND
3	P.B. +12V

P6005 (TO OPERATION)

1	P21
2	P22
3	PØ3
4	P23
5	PØ2
6	−28V
7	SERIAL DATA
8	SERIAL CLOCK

P6002 (TO TIMER)

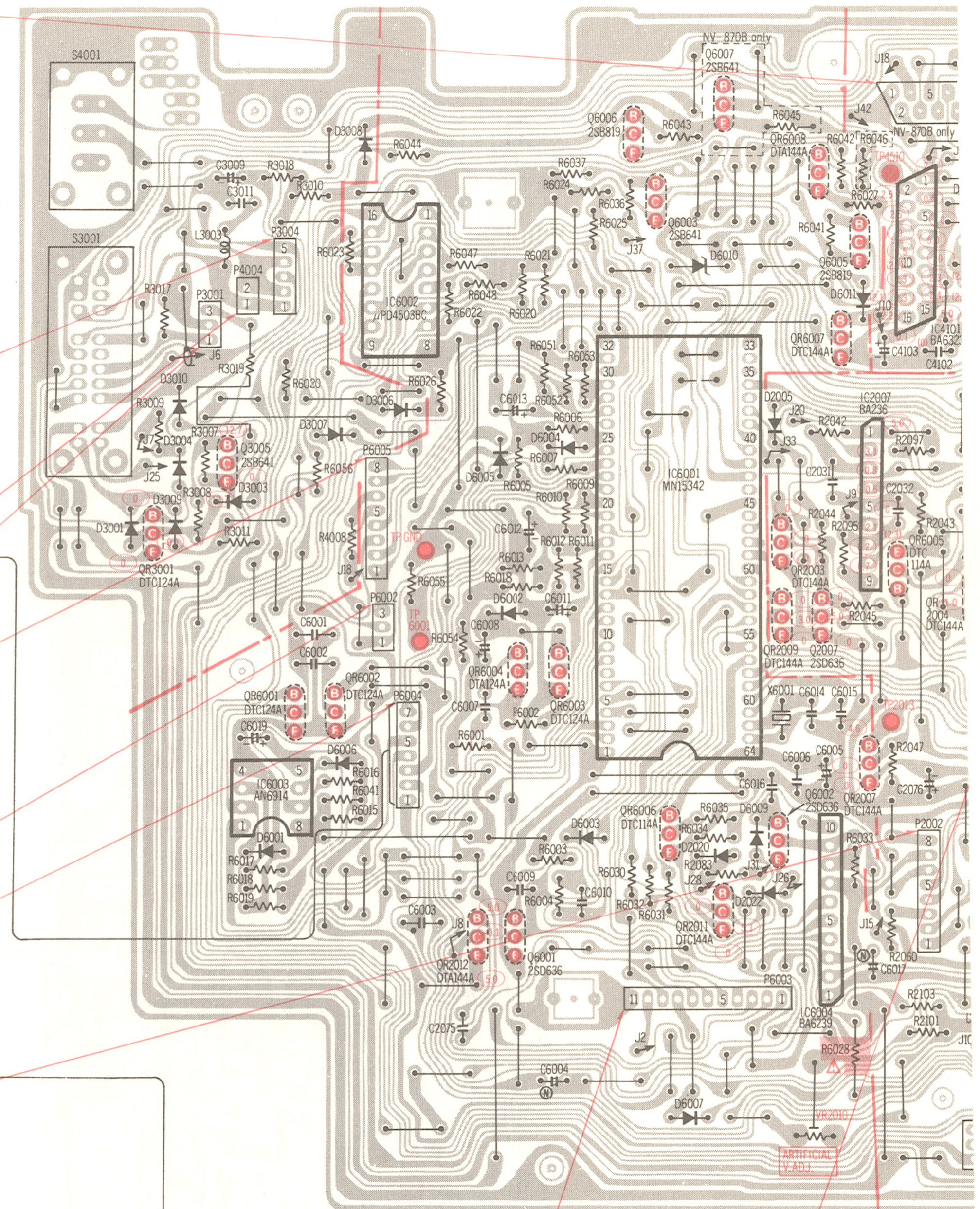
1	PØ2
2	KEY SCAN
3	P21

P6004

1	F.LOAD Ⓜ ⊕
2	F.LOAD Ⓜ ⊖
3	GND
4	CAS SW2
5	CAS SW1
6	SUPPLY PHOTO TR
7	TAKE UP PHOTO TR

P2002 (TO OPERATION)

1	SLOW TR VR
2	SLOW TR VR
3	TRACKING VR
4	PICTURE CTL
5	EXCEPT REC 5V
6	GND
7	REG 12V
8	REG 5V



P6003 (TO TIMER)

1	REG 12.7V
2	TUNER Ⓛ
3	SIMUL Ⓛ
4	POWER SW Ⓛ
5	SERIAL CLOCK
6	SERIAL DATA
7	POWER ON Ⓛ
8	SAF TAB
9	CH LOCK
10	12V Ⓕ

P4001 (TO A/C HEAD)

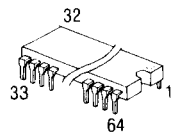
1	A-HEAD (R)
2	A-HEAD (W)
3	GND
4	A-ERASE
5	CTL H

Back Page:
POWER SUPPLY Section

SYSTEM CONTROL CIRCUIT BOARD	
Transistor	
Q1502	C-2
Q1503	D-2
Q6001	C-8
Q6002	C-9
Q6003	E-8
Q6005	E-9
Q6006	E-8
Q6007	E-8
Transistor & Resistor	
QR6001	D-7
QR6002	D-7
QR6003	D-8
QR6004	D-8
QR6005	D-9
QR6006	C-8
QR6007	E-9
QR6008	E-9
Integrated Circuit	
IC1501	E-3
IC6001	D-8
IC6002	E-7
IC6003	C-7
IC6004	C-9
Test Point	
TP6001	D-7
TP GND	D-7

ADDRESS INFORMATION

ICs & TRANSISTORs INFORMATION



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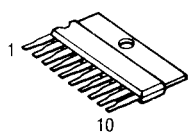

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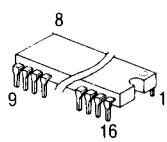

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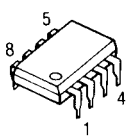

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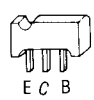


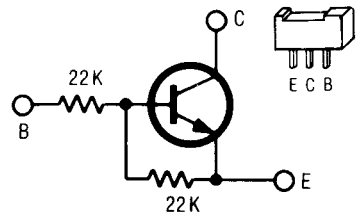
2SD636
2SB641
2SB819

SYSTEM CONTROL ICs VOLTAGE CHART

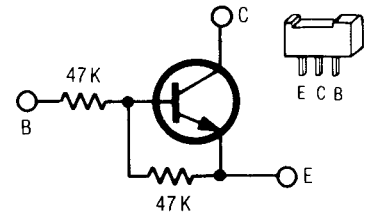
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.4	4.6	4.9	4.9	0	5.0	5.0	0	3.7	5.0	5.0	4.5	0.6	4.6	5.0	2.6	0	4.0	3.0
PLAY	0	4.4	4.6	4.9	4.9	0	5.0	5.0	0	3.7	5.0	5.0	4.5	0.6	4.6	5.0	2.6	2.5	—	3.0
REC.	0	4.4	4.6	4.9	4.9	0	5.0	5.0	0	3.7	5.0	5.0	4.5	0.6	4.6	5.0	2.6	2.5	—	3.0
F.F	0	4.4	4.6	4.9	4.9	0	5.0	5.0	4.9	3.7	5.0	5.0	4.5	0.6	4.6	5.0	2.6	0	2.3	3.0
REW.	0	4.4	4.6	4.9	4.9	0	5.0	5.0	4.9	3.7	5.0	5.0	4.5	0.6	4.6	5.0	2.6	0	2.3	3.0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	3.0	2.5	0.6	0	4.9	0.3	4.9	4.9	5.0	5.3	4.5	0.1	4.9	0	0	5.0	5.0	4.9	0	0
PLAY	3.0	2.5	0.6	0	4.9	0.3	4.9	4.9	5.0	5.3	4.5	0.1	4.9	0	0	5.0	5.0	0	0	0
REC.	3.0	2.5	0.6	0	4.9	0.3	4.9	4.9	5.0	5.3	4.5	0.1	4.9	0	0	5.0	5.0	0	0	0
F.F	3.0	2.5	0.6	0	4.9	0.3	4.9	4.9	5.0	5.3	4.5	0.1	4.9	0	0	5.0	5.0	0	0	5.0
REW.	3.0	2.5	0.6	0	4.9	0.3	4.9	4.9	5.0	5.3	4.5	0.1	4.9	0	0	5.0	5.0	4.9	4.9	5.0
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0.2	12.8	0	4.5	5.0	5.0	0	0	4.8	4.9	4.9	0	0	0	0	4.8	0.1	0	0
PLAY	0	0.2	12.7	0	4.5	5.0	5.0	0	0	4.8	0	5.0	0.1	0	0	0	4.8	5.0	0	0
REC.	0	0.2	0.3	0	4.5	5.0	5.0	0	0	0	4.9	4.8	0.1	0	0	0	4.8	5.0	0	0
F.F	0	0.2	12.7	0	4.5	5.0	5.0	0	0	4.8	4.9	5.0	0.6	0	0	0	4.8	0.1	0	0
REW.	0	0.2	12.7	0	4.5	5.0	5.0	0	0	4.8	4.9	5.0	0.6	0	0	0	0.8	0.1	0	0
REF. NO.	IC6001																			
MODE	61	62	63	64																
STOP	5.0	2.0	2.2	5.0																
PLAY	5.0	2.0	2.2	5.0																
REC.	5.0	2.0	2.2	5.0																
F.F	5.0	2.0	2.2	5.0																
REW.	5.0	2.0	2.2	5.0																
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.9	0	4.9	0	0.1	4.9	4.5	0	5.3	5.0	5.3	0	4.9	0.1	4.9	5.0				
PLAY	4.9	0	4.9	5.0	0.1	0	4.5	0	5.3	5.0	5.3	0	4.9	0.1	4.9	5.0				
REC.	4.9	0	4.9	5.0	0.1	0	4.5	0	5.3	5.0	5.3	0	4.9	0.1	4.9	5.0				
F.F	4.9	5.0	4.9	5.0	0.1	0	4.5	0	5.3	5.0	5.3	0	4.9	0.1	4.9	5.0				
REW.	4.9	5.0	4.9	5.0	0.1	0	4.5	0	5.3	5.0	5.3	0	4.9	0.1	4.9	5.0				
REF. NO.	IC6003										IC6004									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8	9	10
STOP	5.0	0	2.4	0	0	0.4	0	5.0			0.1	0.6	0.6	0	0	0	12.8	5.8	13.6	0.6
PLAY	5.0	0	2.4	0	0	0.4	0	5.0			0	0.6	0.6	0	0	0	12.8	5.8	12.9	0.6
REC.	5.0	0	2.4	0	0	0.4	0	5.0			0	0.6	0.6	0	0	0	12.8	5.8	12.8	0.6
F.F	5.0	0	2.4	0	0	0.4	0	5.0			0	0.6	0.6	0	0	0	12.8	5.8	12.9	0.6
REW.	5.0	0	2.4	0	0	0.4	0	5.0			0	0.6	0.6	0	0	0	12.8	5.8	13.0	0.6

SYSTEM CONTROL TRANSISTORs VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6005			Q6006					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	0	4.5	0.2	0.1	13.6	0.3	5.0	0	5.0	12.8	0	12.8	12.8	12.8	12.0			
PLAY	0	4.5	0.2	0.2	12.9	0.3	5.0	0	5.0	12.7	0	12.7	12.7	12.7	12.0			
REC.	0	4.5	0.2	0.2	12.8	0.4	5.0	0	5.0	12.6	12.4	11.9	12.7	12.6	12.0			
F.F	0	4.5	0.2	0.6	12.9	0.9	5.0	0	5.0	12.8	0	12.8	12.8	12.8	12.0			
REW.	0	4.5	0.2	0.6	13.0	0.9	5.0	0	5.0	12.8	0	12.8	12.8	12.8	12.0			
REF. NO.	QR6001			QR6002			QR6003			QR6004			QR6005			QR6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	4.4	0	0	4.6	0	5.0	0	5.0	0	5.0	0	0.1	4.8	0	0.1	4.8
PLAY	0	0	4.4	0	0	4.6	0	5.0	0	5.0	0	5.0	0	0.1	4.8	0	0.1	4.8
REC.	0	0	4.4	0	0	4.6	0	5.0	0	5.0	0	5.0	0	5.1	0	0	0.1	4.8
F.F	0	0	4.4	0	0	4.6	0	5.0	0	5.0	0	5.0	0	0.1	4.8	0	0.1	4.8
REW.	0	0	4.4	0	0	4.6	0	5.0	0	5.0	0	5.0	0	0.1	4.8	0	0.1	4.8
REF. NO.	QR6007			QR6008														
MODE	E	C	B	E	C	B												
STOP	0	0	4.9	5.0	4.9	0												
PLAY	0	4.9	0	5.0	0	4.9												
REC.	0	0	4.9	5.0	4.9	0												
F.F	0	0	4.9	5.0	4.9	0												
REW.	0	0	4.9	5.0	4.9	0												



DTC124A



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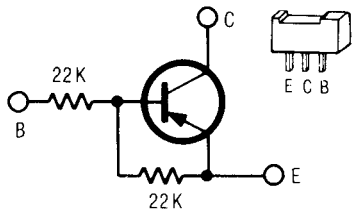

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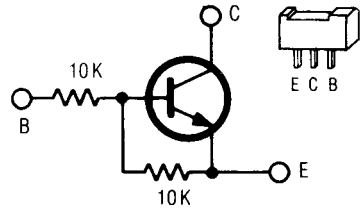

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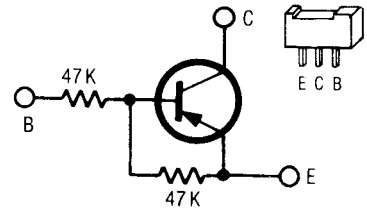
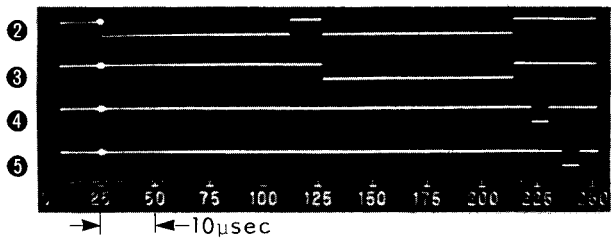


DTA144A

MICROPROCESSOR IC6001 (MN15342VGL) MODE BY MODE TIMING CHART

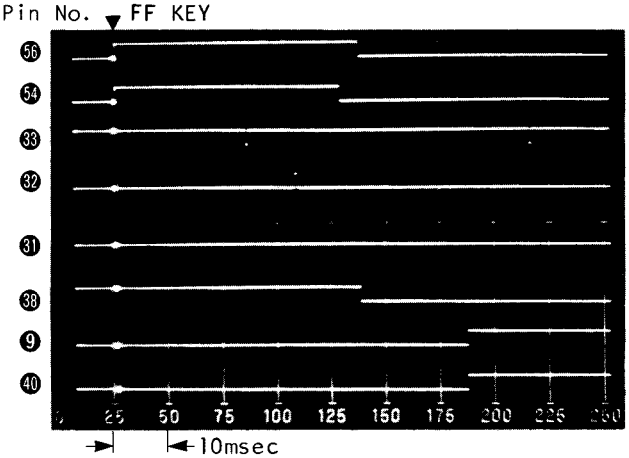
1. SCAN PULSES

IC Pin No.



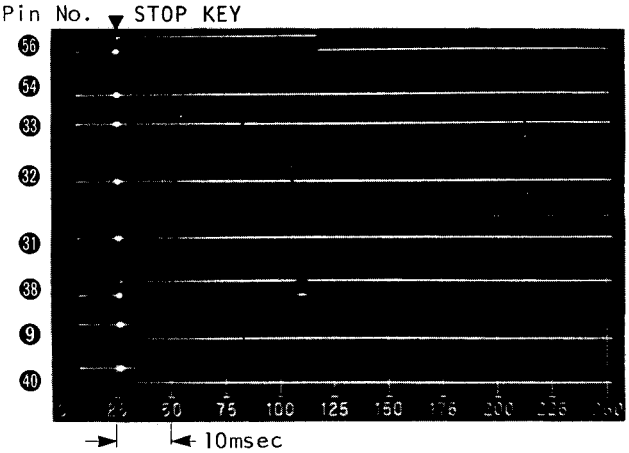
2. STOP → FF

IC Pin No. ▼ FF KEY



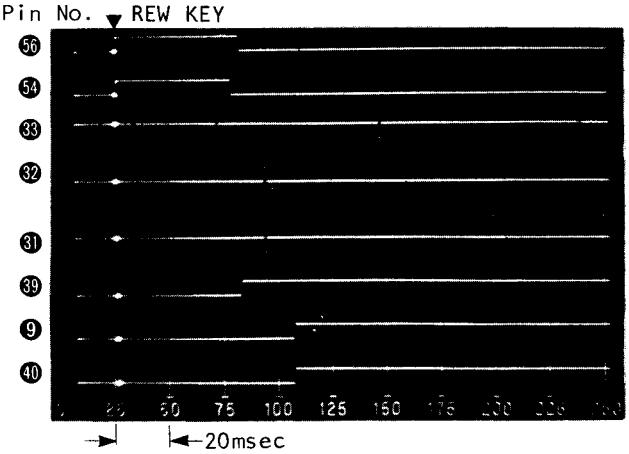
3. FF → STOP

IC Pin No. ▼ STOP KEY



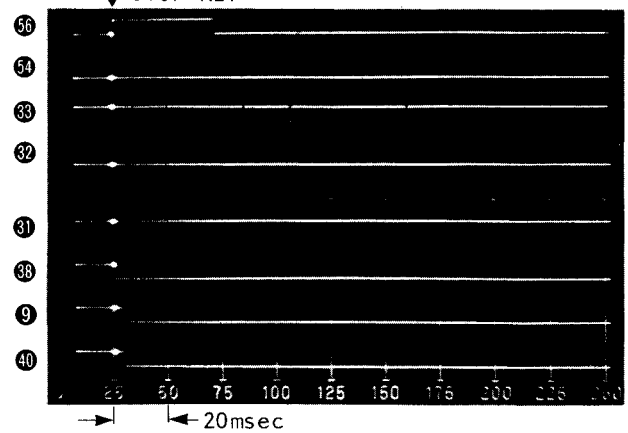
4. STOP → REW

IC Pin No. ▼ REW KEY



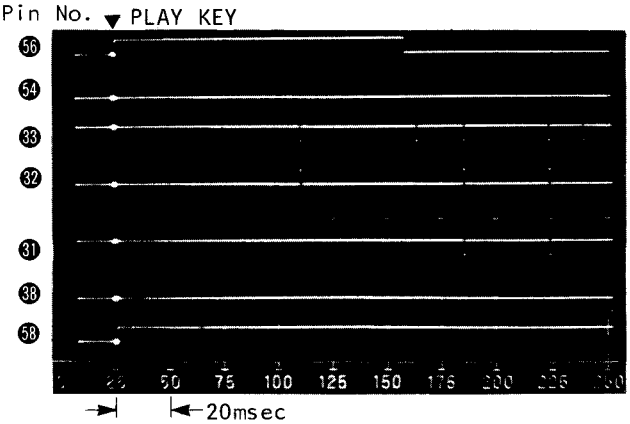
5. REW → STOP

IC Pin No. ▼ STOP KEY



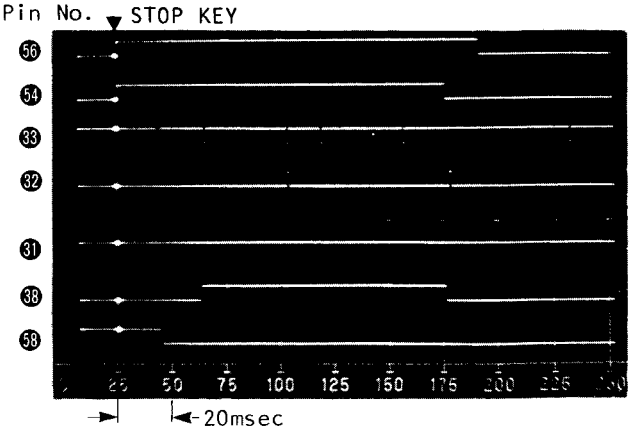
6. STOP → PLAY

IC Pin No. ▼ PLAY KEY

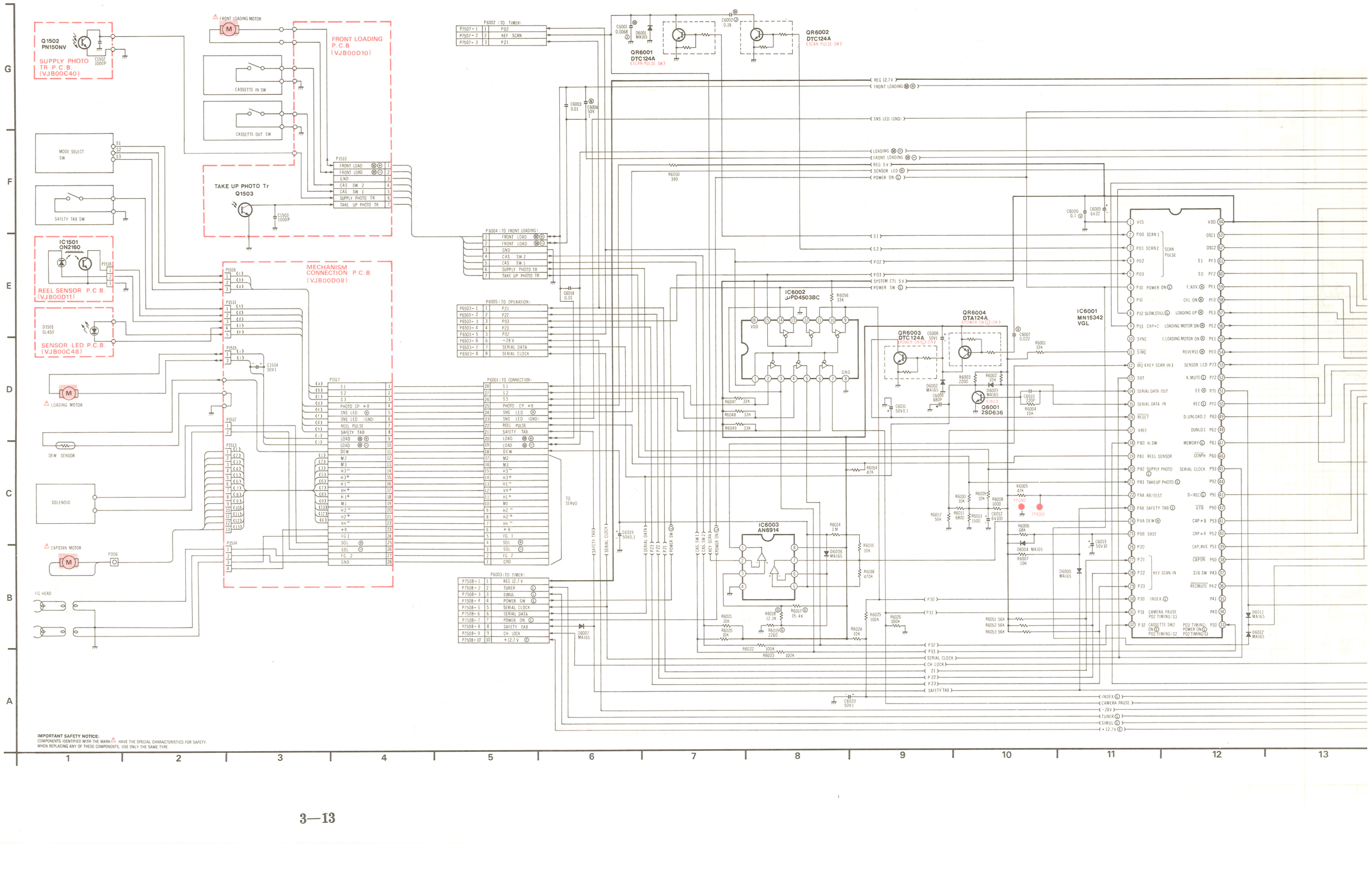


7. PLAY → STOP

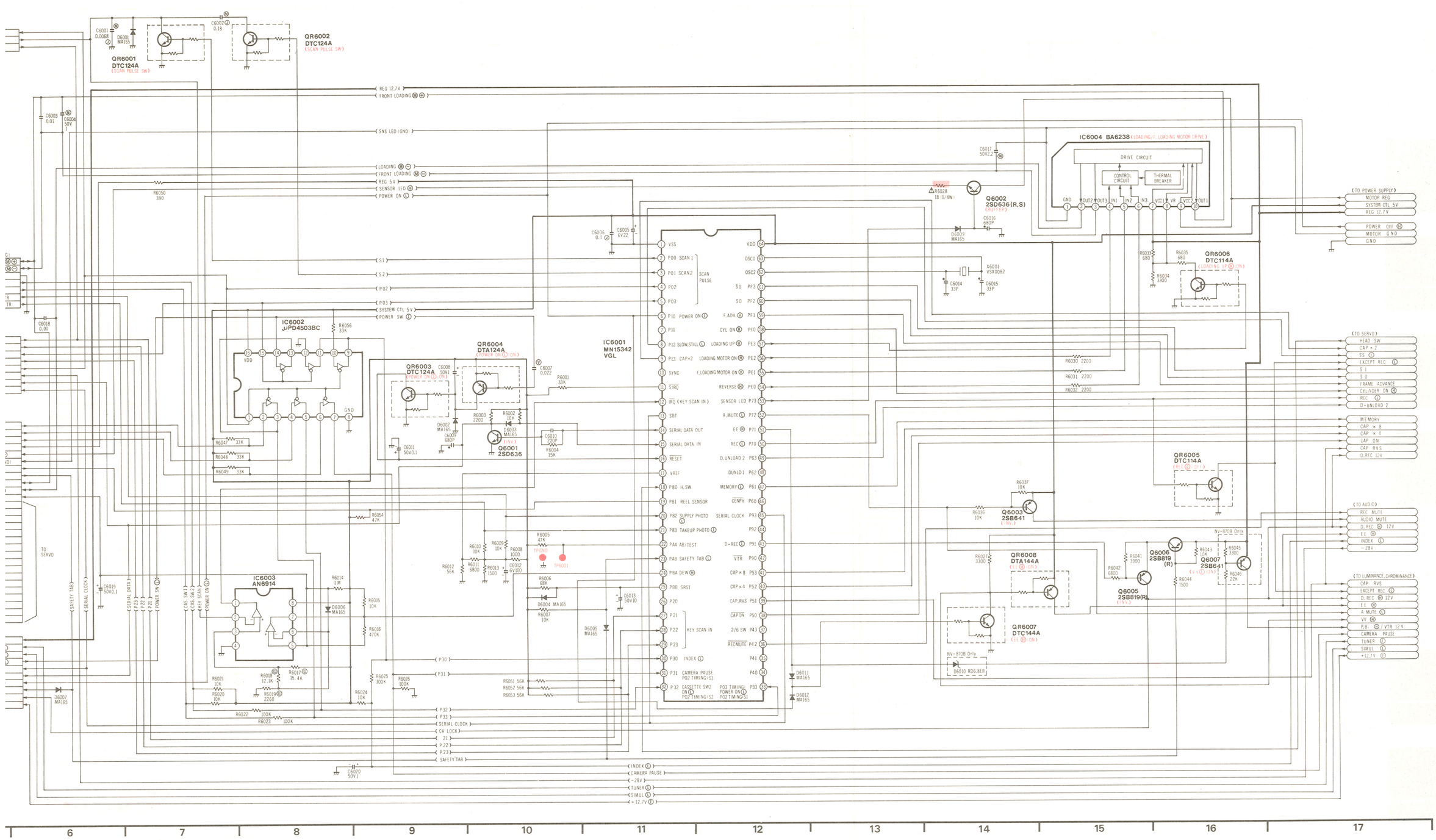
IC Pin No. ▼ STOP KEY



3-11. SYSTEM CONTROL SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.



SYSTEM CONTROL SCHEMATIC

Transistor

Q1502	G-1
Q1503	F-2
Q6001	D-10
Q6002	F-14
Q6003	C-14
Q6005	C-15
Q6006	C-16
Q6007	C-16

Transistor & Resistor

QR6001	G-7
QR6002	G-8
QR6003	D-9
QR6004	D-10
QR6005	C-16
QR6006	E-16
QR6007	B-14
QR6008	C-14

Integrated Circuit

IC1501	E-1
IC6001	E-11
IC6002	E-8
IC6003	B-8
IC6004	F-15

Test Point

TP6001	C-10
TP GND	C-10

Connector

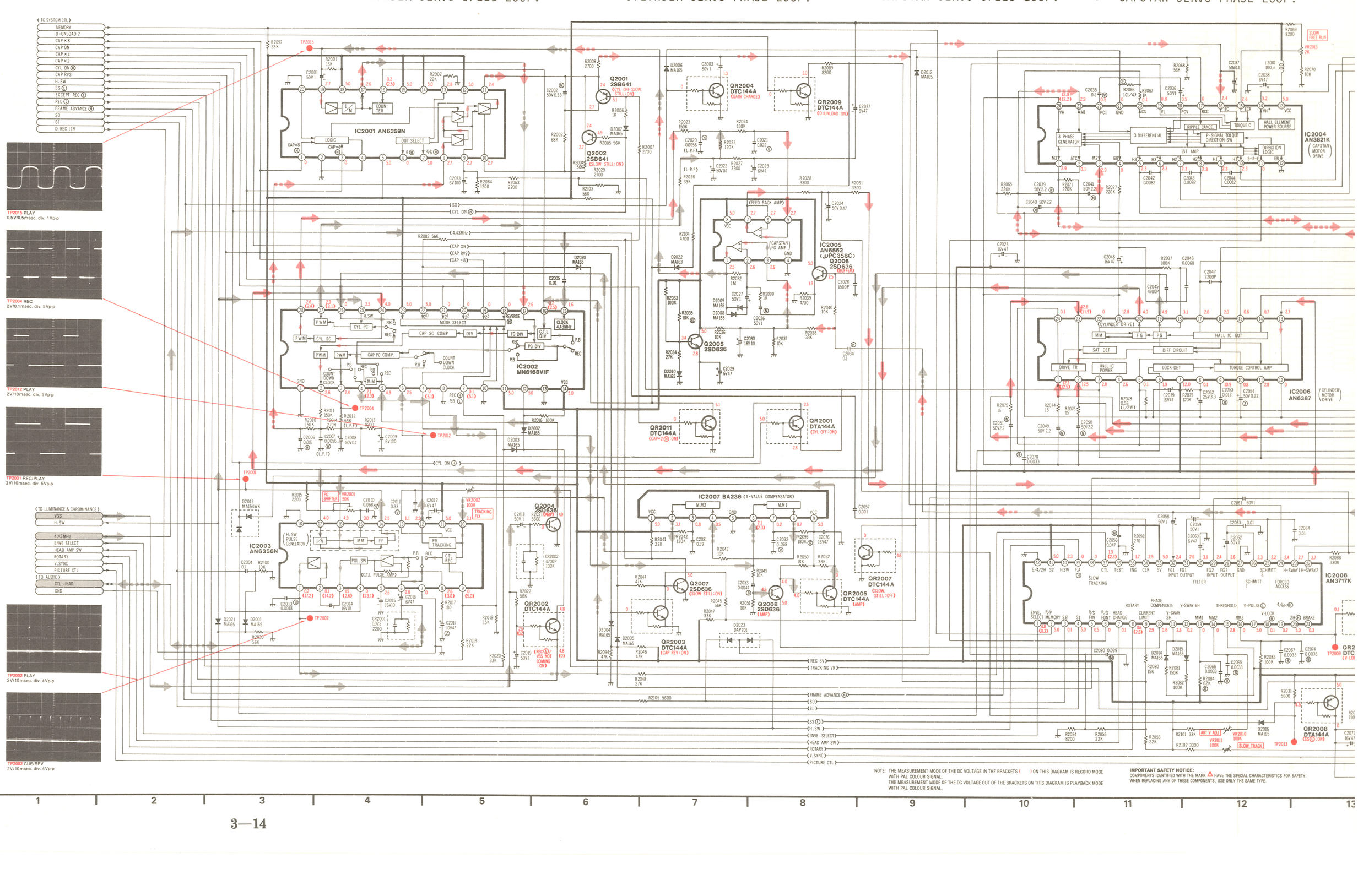
P006	B-1
P1510	F-4
P1511	E-3
P1512	D-3
P1513	C-3
P1514	B-3
P1515	D-3
P1516	E-3
P1517	D-4
P1518	E-1
P6001	D-5
P6002	G-5
P6003	B-5
P6004	E-5
P6005	E-5

ADDRESS INFORMATION

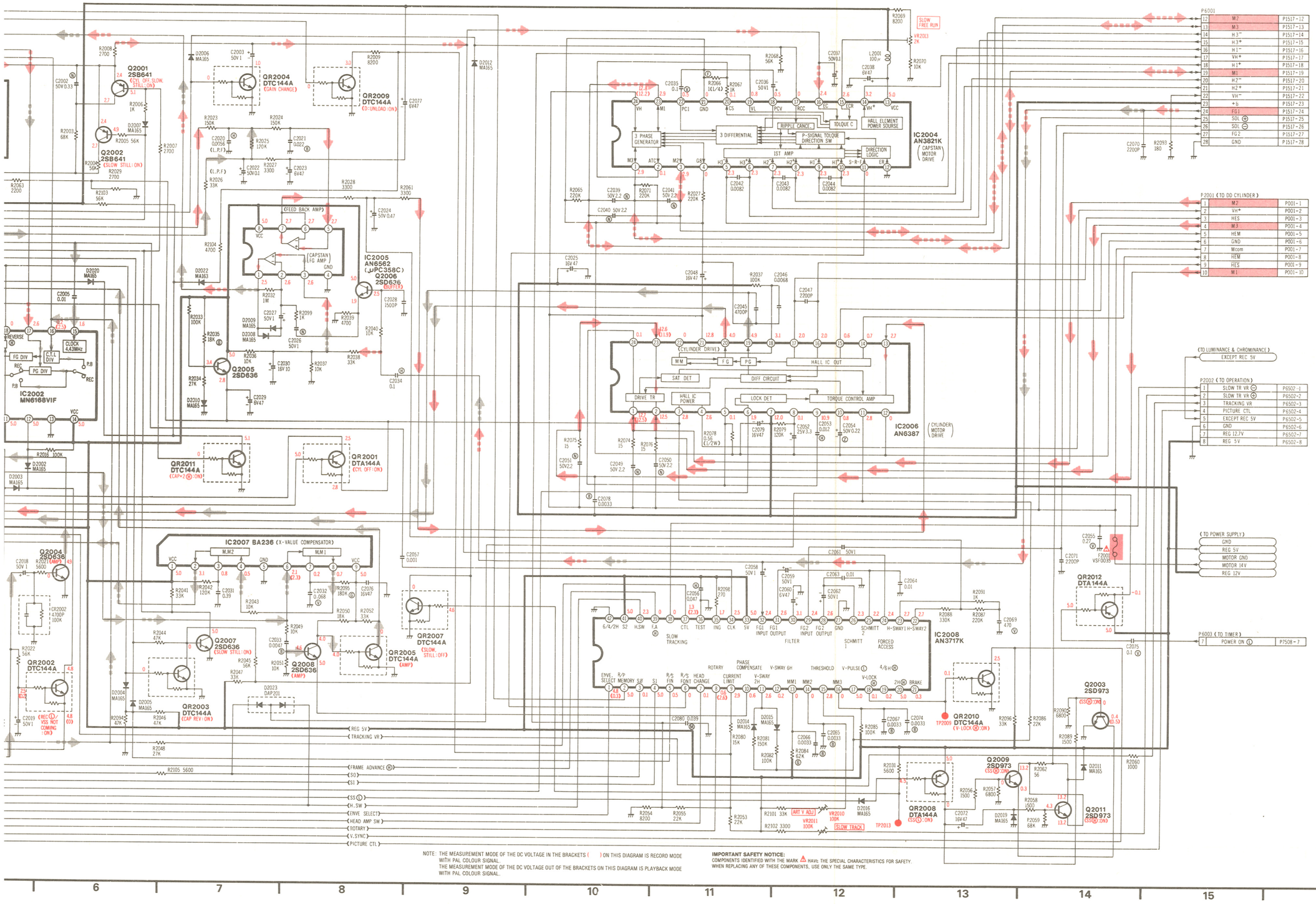
Next Page:
SERVO Section

3-12. SERVO SCHEMATIC DIAGRAM

CYLINDER SERVO SPEED LOOP. CYLINDER SERVO PHASE LOOP. CAPSTAN SERVO SPEED LOOP. CAPSTAN SERVO PHASE LOOP.



LOOP. CYLINDER SERVO PHASE LOOP. CAPSTAN SERVO SPEED LOOP. CAPSTAN SERVO PHASE LOOP.



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

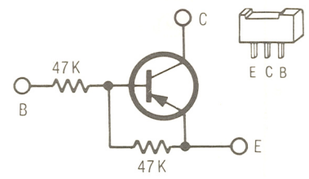
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

6 7 8 9 10 11 12 13 14 15

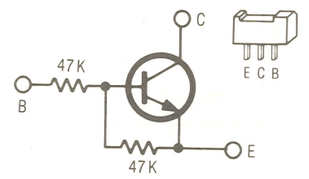
SERVO SCHEMATIC

Transistor	
Q2001	G-6
Q2002	F-6
Q2003	B-14
Q2004	C-6
Q2005	E-7
Q2006	E-8
Q2007	B-7
Q2008	B-8
Q2009	A-13
Q2011	A-14
Transistor & Resistor	
QR2001	D-8
QR2002	B-6
QR2003	B-7
QR2004	G-7
QR2005	B-8
QR2007	C-9
QR2008	A-13
QR2009	G-8
QR2010	B-13
QR2011	D-7
QR2012	C-14
Integrated Circuit	
IC2001	G-4
IC2002	D-5
IC2003	C-3
IC2004	G-13
IC2005	F-8
IC2006	E-12
IC2007	C-7
IC2008	C-13
Test Point	
TP2001	C-3
TP2002	B-3
TP2004	D-4
TP2009	B-13
TP2012	D-5
TP2013	A-12
TP2015	G-3
Adjustment	
VR2001	C-4
VR2002	C-5
VR2010	A-12
VR2011	A-12
VR2013	G-13
Connector	
P2001	F-15
P2002	E-15
P6001	G-15
P6003	C-15

ADDRESS INFORMATION



DTA144A



DTC144A

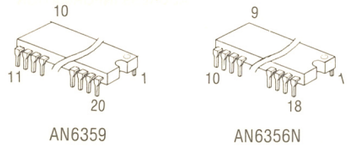
3-13. SERVO Section in Main Circuit Board (VEP03229A: NV-870E/EO, VEP03229B: NV-870B, VEP03229C: NV-870EG)

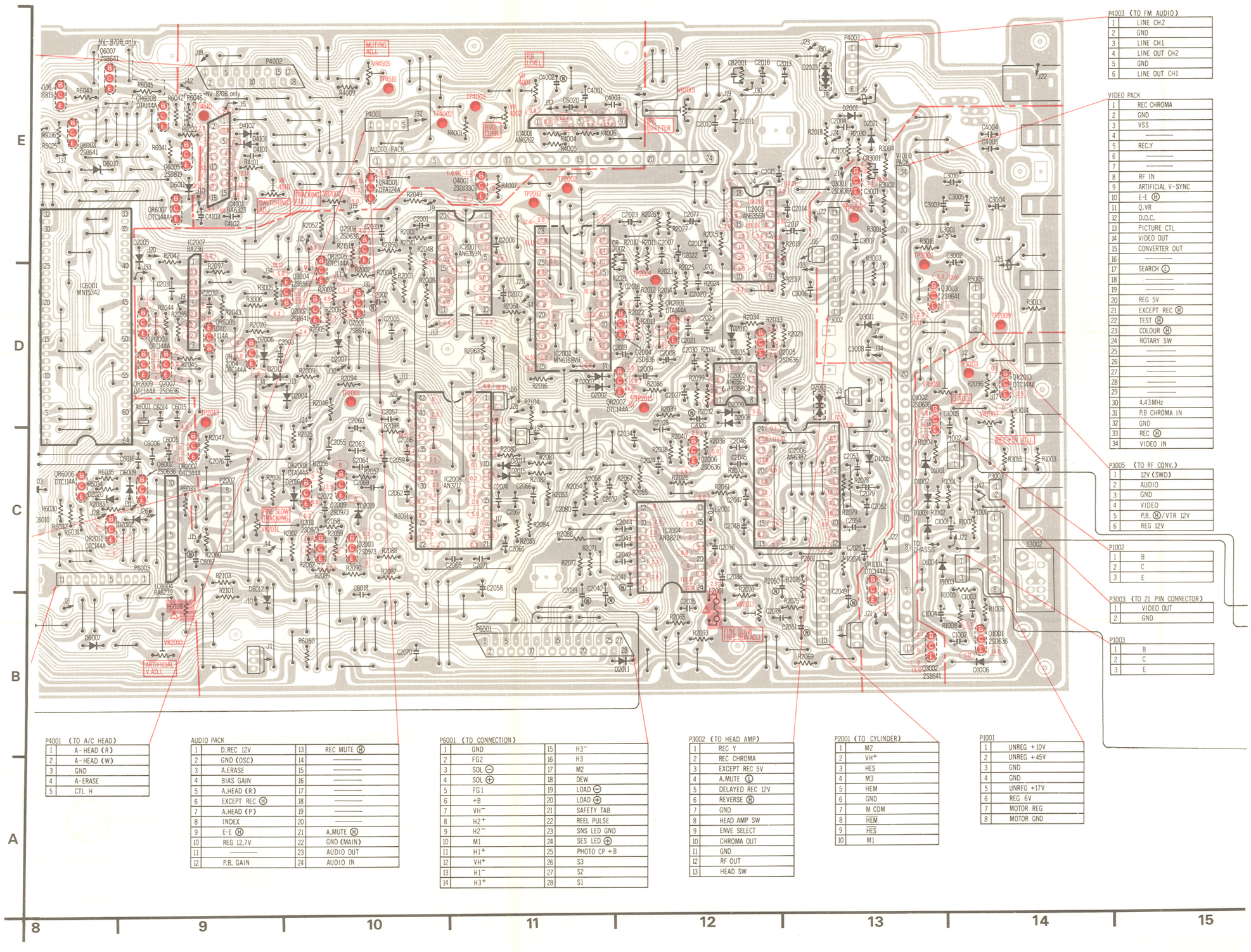
SERVO CIRCUIT BOARD	
Transistor	
Q2001	D-10
Q2002	D-10
Q2003	C-10
Q2004	D-12
Q2005	D-13
Q2006	C-12
Q2007	D-9
Q2008	E-10
Q2009	C-10
Q2011	C-10
Transistor & Resistor	
QR2001	D-12
QR2002	D-12
QR2003	D-9
QR2004	D-9
QR2005	D-10
QR2007	C-9
QR2008	C-10
QR2009	D-9
QR2010	D-14
QR2011	C-8
QR2012	C-8

Integrated Circuit	
IC2001	E-11
IC2002	D-11
IC2003	E-12
IC2004	C-12
IC2005	D-12
IC2006	C-13
IC2007	E-9
IC2008	C-11
Test Point	
TP2001	D-10
TP2002	E-11
TP2004	D-12
TP2009	D-14
TP2012	E-11
TP2013	D-9
TP2015	D-12
Adjustment	
VR2001	E-12
VR2002	E-10
VR2010	B-9
VR2011	C-9
VR2013	B-12

ADDRESS INFORMATION

ICs & TRANSISTORs INFORMATION





P4003 (TO FM AUDIO)

1	LINE CH2
2	GND
3	LINE CH1
4	LINE OUT CH2
5	GND
6	LINE OUT CH1

VIDEO PACK

1	REC CHROMA
2	GND
3	VSS
4	———
5	REC.Y
6	———
7	———
8	RF IN
9	ARTIFICIAL V-SYNC
10	E-E Ⓗ
11	Q.VR
12	D.O.C.
13	PICTURE CTL
14	VIDEO OUT
15	CONVERTER OUT
16	———
17	SEARCH Ⓛ
18	———
19	———
20	REG 5V
21	EXCEPT REC Ⓡ
22	TEST Ⓗ
23	COLOUR Ⓗ
24	ROTARY SW
25	———
26	———
27	———
28	———
29	———
30	4.43MHz
31	P.B CHROMA IN
32	GND
33	REC Ⓗ
34	VIDEO IN

P3005 (TO RF CONV.)

1	12V (SWD)
2	AUDIO
3	GND
4	VIDEO
5	P.B. Ⓗ/VTR 12V
6	REG 12V

P1002

1	B
2	C
3	E

P3003 (TO 21 PIN CONNECTOR)

1	VIDEO OUT
2	GND

P1003

1	B
2	C
3	E

P4001 (TO A/C HEAD)

1	A-HEAD (R)
2	A-HEAD (W)
3	GND
4	A-ERASE
5	CTL H

AUDIO PACK

1	D.REC 12V	13	REC MUTE Ⓗ
2	GND (OSC)	14	———
3	A.ERASE	15	———
4	BIAS GAIN	16	———
5	A.HEAD (R)	17	———
6	EXCEPT REC Ⓡ	18	———
7	A.HEAD (P)	19	———
8	INDEX	20	———
9	E-E Ⓗ	21	A.MUTE Ⓗ
10	REG 12.7V	22	GND (MAIN)
11	———	23	AUDIO OUT
12	P.B. GAIN	24	AUDIO IN

P6001 (TO CONNECTION)

1	GND	15	H3⁻
2	FG2	16	H3
3	SOL ⊖	17	M2
4	SOL ⊕	18	DEW
5	FG1	19	LOAD ⊖
6	+B	20	LOAD ⊕
7	VH⁻	21	SAFETY TAB
8	H2⁺	22	REEL PULSE
9	H2⁻	23	SNS LED GND
10	M1	24	SES LED ⊕
11	H1⁺	25	PHOTO CP +B
12	VH⁺	26	S3
13	H1⁻	27	S2
14	H3⁺	28	S1

P3002 (TO HEAD AMP)

1	REC Y
2	REC CHROMA
3	EXCEPT REC 5V
4	A.MUTE Ⓛ
5	DELAYED REC 12V
6	REVERSE Ⓡ
7	GND
8	HEAD AMP SW
9	ENVE SELECT
10	CHROMA OUT
11	GND
12	RF OUT
13	HEAD SW

P2001 (TO CYLINDER)

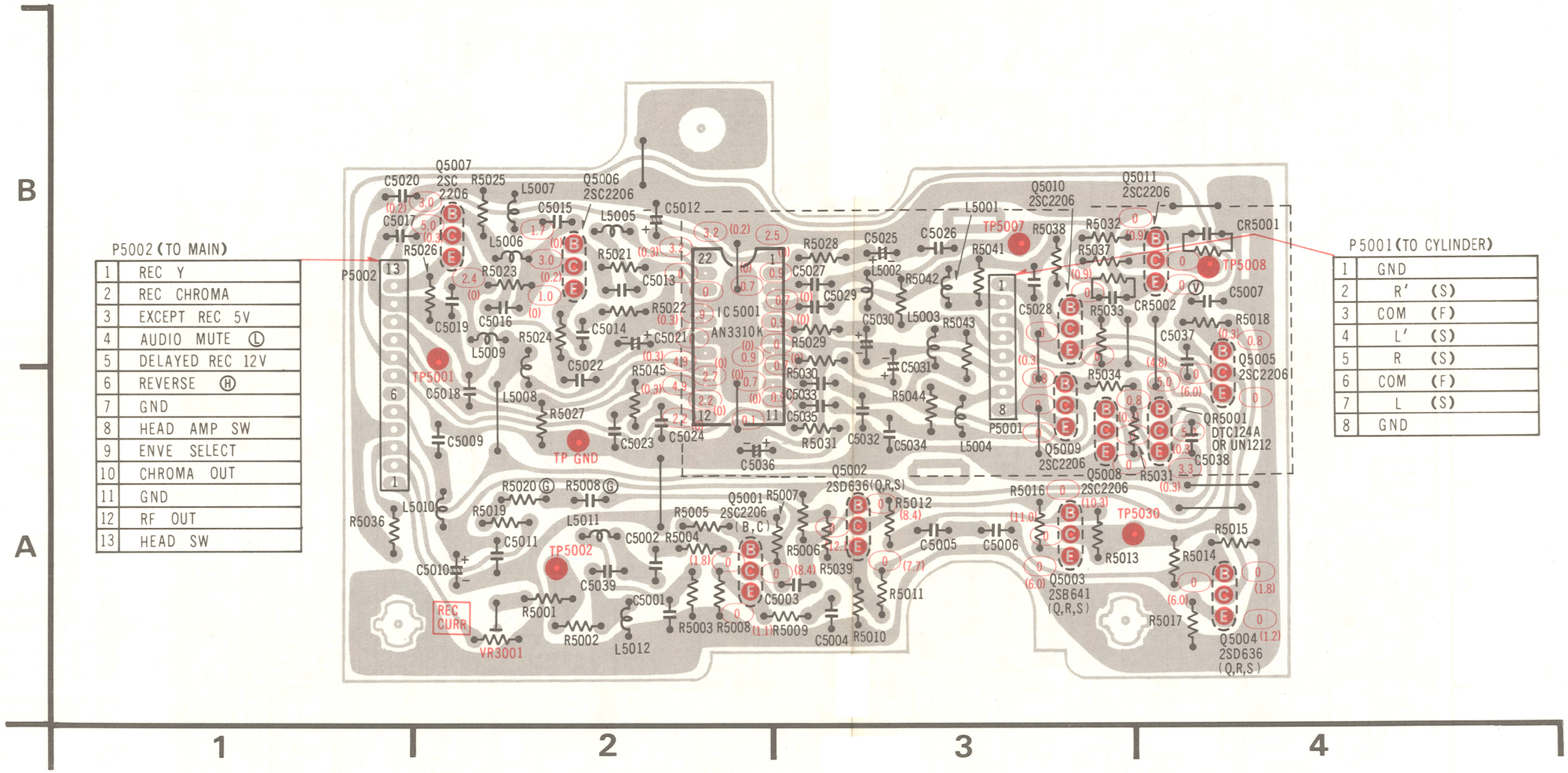
1	M2
2	VH⁺
3	HES
4	M3
5	HEM
6	GND
7	M COM
8	$\overline{\text{HEM}}$
9	$\overline{\text{HES}}$
10	M1

P1001

1	UNREG +10V
2	UNREG +45V
3	GND
4	GND
5	UNREG +17V
6	REG 6V
7	MOTOR REG
8	MOTOR GND

3—15

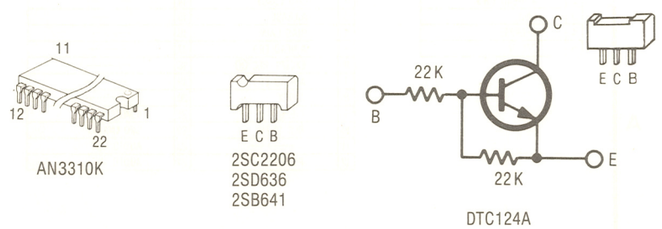
3-14. HEAD AMP CIRCUIT BOARD (VEP05060A)



HEAD AMP CIRCUIT BOARD	
Transistor	
Q5001	A-2
Q5002	A-3
Q5003	A-3
Q5004	A-4
Q5005	A-4
Q5006	B-2
Q5007	B-2
Q5008	A-3
Q5009	A-3
Q5010	A-3
Q5011	B-4
Transistor & Resistor	
QR5001	A-4
Integrated Circuit	
IC5001	B-2
Test Point	
TP5001	A-2
TP5002	A-2
TP5007	B-3
TP5008	B-4
TP5030	A-4
TP GND	A-2
Adjustment	
VR3001	A-2

ADDRESS INFORMATION

ICs & TRANSISTORs INFORMATION



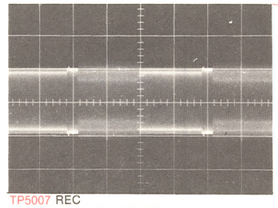
Back Page:
SERVO Section

3—16

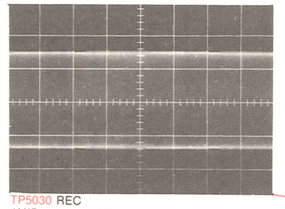
3-15. HEAD AMP SCHEMATIC DIAGRAM

HEAD AMP SCHEMATIC	
Transistor	
Q5001	C-3
Q5002	C-4
Q5003	C-4
Q5004	C-4
Q5005	B-5
Q5006	A-7
Q5007	A-6
Q5008	D-3
Q5009	E-4
Q5010	D-4
Q5011	D-5
Transistor & Resistor	
QR5001	D-4
Integrated Circuit	
IC5001	C-6
Test Point	
TP5001	B-6
TP5002	C-2
TP5007	D-6
TP5008	D-5
TP5030	C-5
TP GND	C-8
Adjustment	
VR3001	C-2
Connector	
P5001	E-7
P5002	B-2

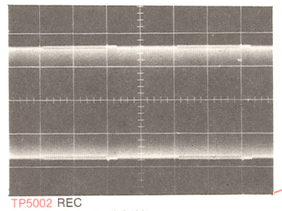
ADDRESS INFORMATION



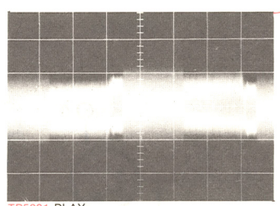
TP5007 REC
50mV/5msec. div. 110mVp-p



TP5030 REC
1V/5msec. div. 3Vp-p



TP5002 REC
0.1V/5msec. div. 0.34Vp-p



TP5001 PLAY
50mV/5msec. div. 130mVp-p

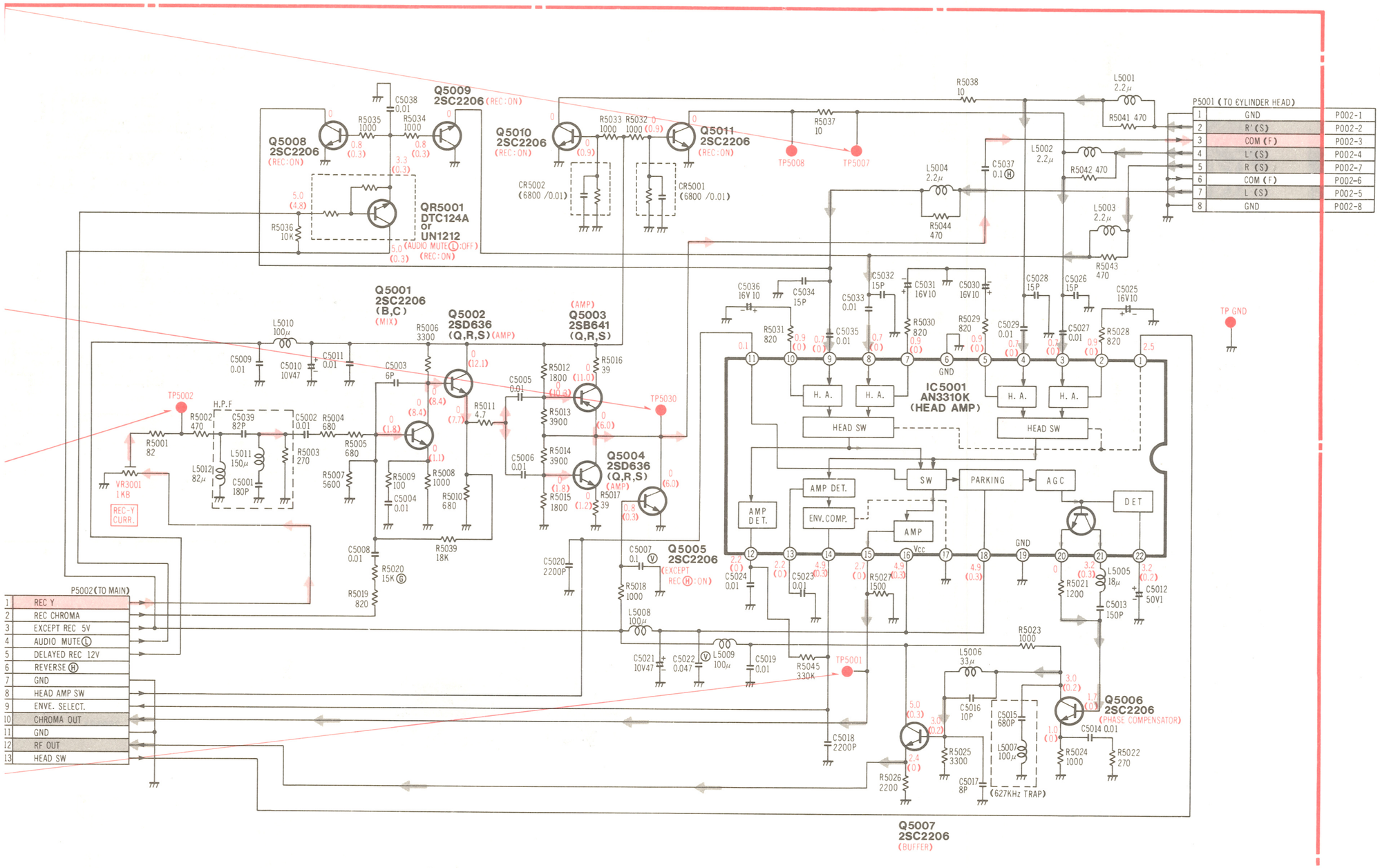
P5002 (TO MAIN)		
P3002-1	1	REC Y
P3002-2	2	REC CHROMA
P3002-3	3	EXCEPT REC 5V
P3002-4	4	AUDIO MUTE (L)
P3002-5	5	DELAYED REC 12V
P3002-6	6	REVERSE (H)
P3002-7	7	GND
P3002-8	8	HEAD AMP SW
P3002-9	9	ENVE. SELECT.
P3002-10	10	CHROMA OUT
P3002-11	11	GND
P3002-12	12	RF OUT
P3002-13	13	HEAD SW

← MAIN SIGNAL PATH IN REC MODE.

← MAIN SIGNAL PATH IN PLAYBACK MODE.

NOTE: THE MEASUREMENT MODE OF THE DC WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC WITH PAL COLOUR SIGNAL.

MATIC DIAGRAM



HEAD AMP (VEP05060A)

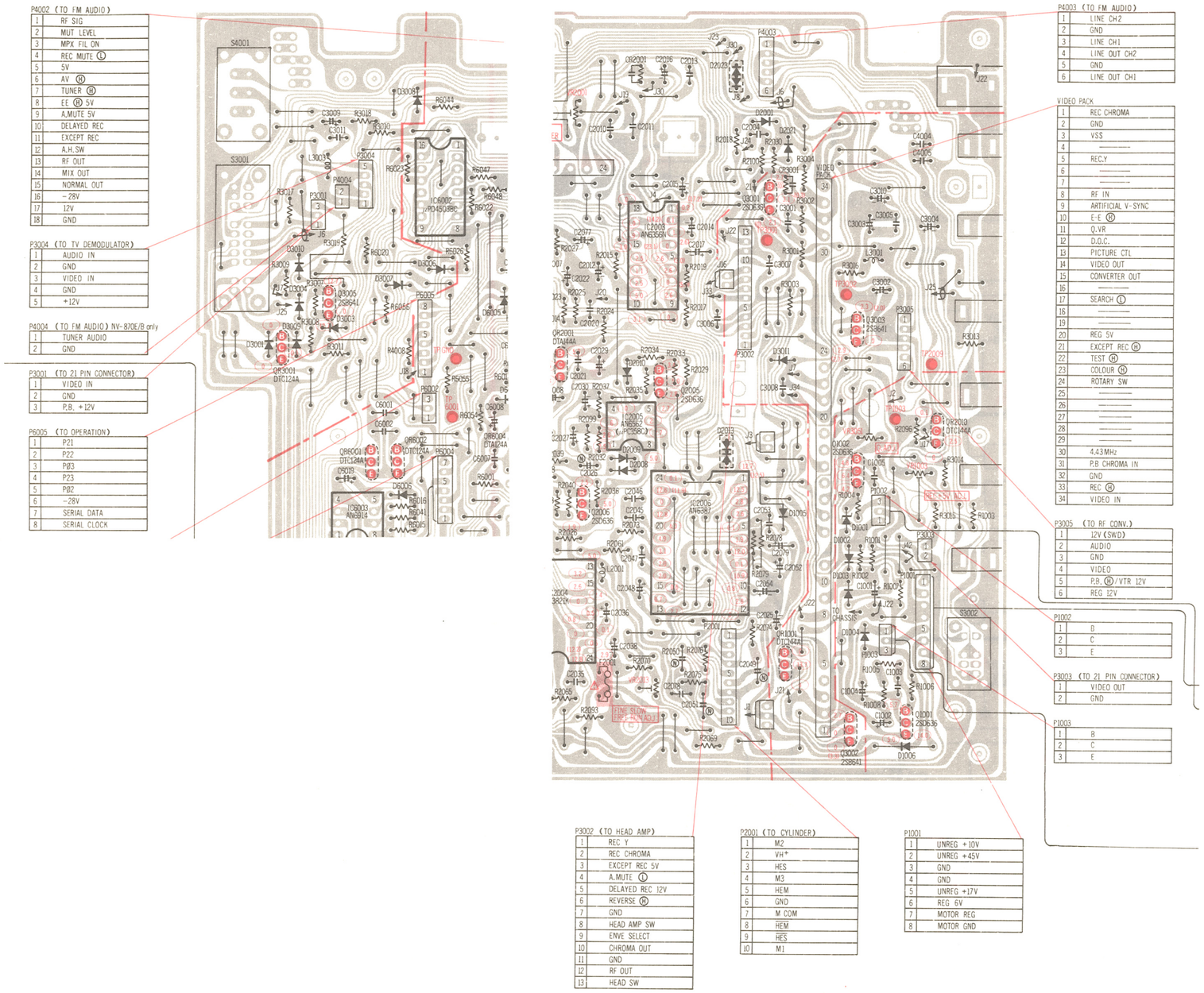
MAIN SIGNAL PATH IN REC MODE. MAIN SIGNAL PATH IN PLAYBACK MODE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

2 3 4 5 6 7 8

Next Page:
LUMINANCE & CHROMINANCE Section

3-16. LUMINANCE & CHROMINANCE Section in Main Circuit Board (VEP03229A: NV-870E/EO, VEP03229B: NV-870B, VEP03229C: NV-870EG)



P4002 (TO FM AUDIO)

1	RF SIG
2	MUT LEVEL
3	MPX FIL ON
4	REC MUTE (L)
5	5V
6	AV (H)
7	TUNER (H)
8	EE (H) 5V
9	A.MUTE 5V
10	DELAYED REC
11	EXCEPT REC
12	A.H.SW
13	RF OUT
14	MIX OUT
15	NORMAL OUT
16	−28V
17	12V
18	GND

P3004 (TO TV DEMODULATOR)

1	AUDIO IN
2	GND
3	VIDEO IN
4	GND
5	+12V

P4004 (TO FM AUDIO) NV-870E/B only

1	TUNER AUDIO
2	GND

P3001 (TO 21 PIN CONNECTOR)

1	VIDEO IN
2	GND
3	P.B. +12V

P6005 (TO OPERATION)

1	P21
2	P22
3	P03
4	P23
5	P02
6	−28V
7	SERIAL DATA
8	SERIAL CLOCK

P4003 (TO FM AUDIO)

1	LINE CH2
2	GND
3	LINE CH1
4	LINE OUT CH2
5	GND
6	LINE OUT CH1

VIDEO PACK

1	REC CHROMA
2	GND
3	VSS
4	———
5	REC.Y
6	———
7	———
8	RF IN
9	ARTIFICIAL V-SYNC
10	E-E (H)
11	Q.VR
12	D.O.C.
13	PICTURE CTL
14	VIDEO OUT
15	CONVERTER OUT
16	———
17	SEARCH (L)
18	———
19	———
20	REG 5V
21	EXCEPT REC (H)
22	TEST (H)
23	COLOUR (H)
24	ROTARY SW
25	———
26	———
27	———
28	———
29	———
30	4.43MHz
31	P.B. CHROMA IN
32	GND
33	REC (H)
34	VIDEO IN

P3005 (TO RF CONV.)

1	12V (SWD)
2	AUDIO
3	GND
4	VIDEO
5	P.B. (H)/VTR 12V
6	REG 12V

P1002

1	B
2	C
3	E

P3003 (TO 21 PIN CONNECTOR)

1	VIDEO OUT
2	GND

P1003

1	B
2	C
3	E

P3002 (TO HEAD AMP)

1	REC Y
2	REC CHROMA
3	EXCEPT REC 5V
4	A.MUTE (L)
5	DELAYED REC 12V
6	REVERSE (H)
7	GND
8	HEAD AMP SW
9	ENVE SELECT
10	CHROMA OUT
11	GND
12	RF OUT
13	HEAD SW

P2001 (TO CYLINDER)

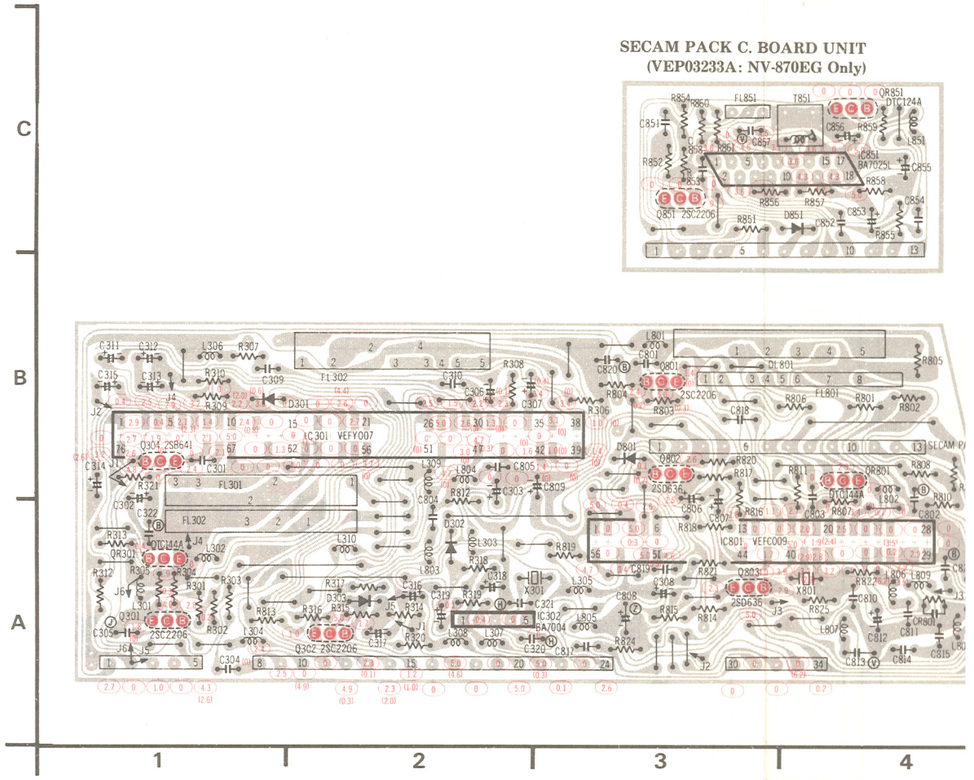
1	M2
2	VH+
3	HES
4	M3
5	HEM
6	GND
7	M COM
8	HEM
9	HES
10	M1

P1001

1	UNREG +10V
2	UNREG +45V
3	GND
4	GND
5	UNREG +17V
6	REG 6V
7	MOTOR REG
8	MOTOR GND

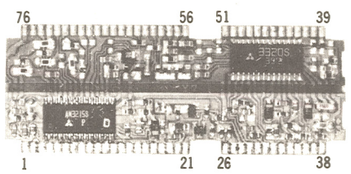
LUMINANCE & CHROMINANCE PACK CIRCUIT BOARD (VEP03232A: VEP03232B:

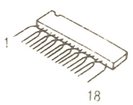
SECAM PACK C. BOARD UNIT
(VEP03233A: NV-870EG Only)



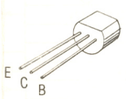
ICs & TRANSISTORs INFORMATION

VEFY007



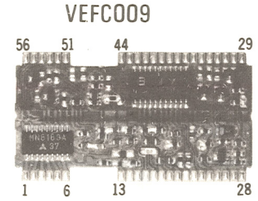


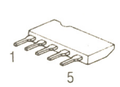
BA7025L



2SB561

VEFC009

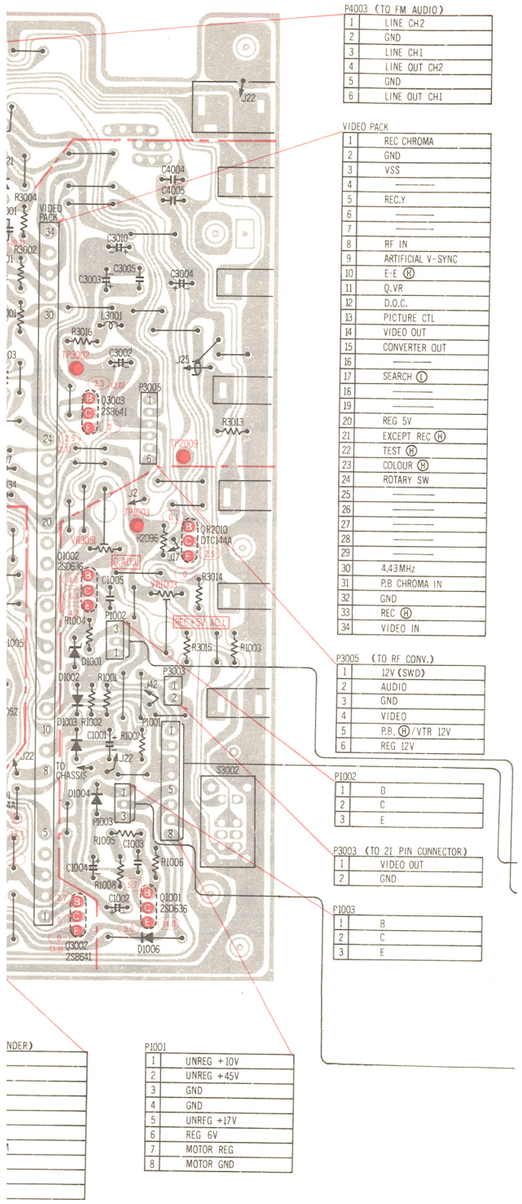




BA7004

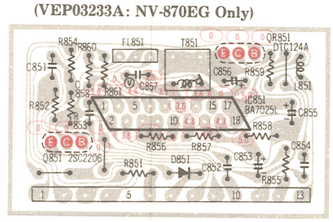
2SD636,
2SB641
2SC2206

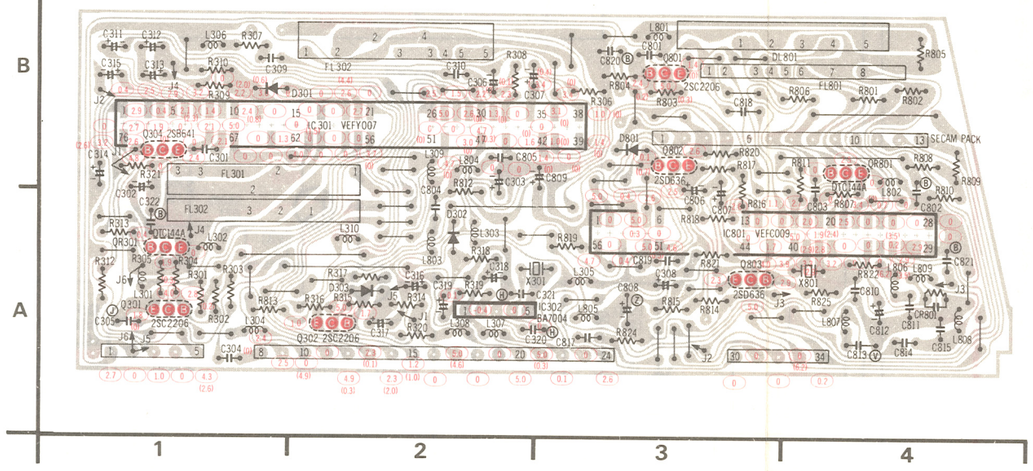
oard
: NV-870EG)



LUMINANCE & CHROMINANCE PACK CIRCUIT BOARD (VEP03232A: NV-870E/B/EO VEP03232B: NV-870EG)

SECAM PACK C. BOARD UNIT
(VEP03233A: NV-870EG Only)



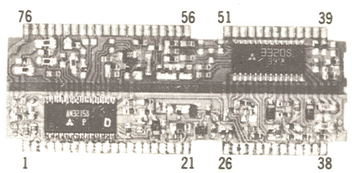


LUMINANCE & CHROMINANCE PACK CIRCUIT BOARD	
Transistor	
Q301	A-1
Q302	A-2
Q304	B-1
Q801	B-3
Q802	B-3
Q803	A-3
Q851	C-3
Transistor & Resistor	
QR301	A-4
QR801	B-4
QR851	C-4
Integrated Circuit	
IC301	B-2
IC302	A-2
IC801	A-3
IC851	C-4

ADDRESS INFORMATION

ICs & TRANSISTORs INFORMATION

VEFY007



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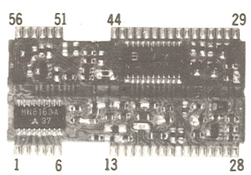

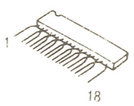

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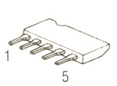

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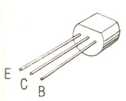

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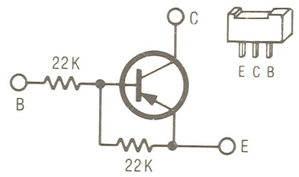
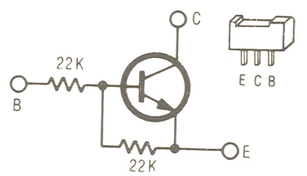
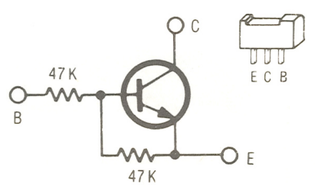


DTA124A



DTC124A



DTC144A

IC301 (VEFY007)

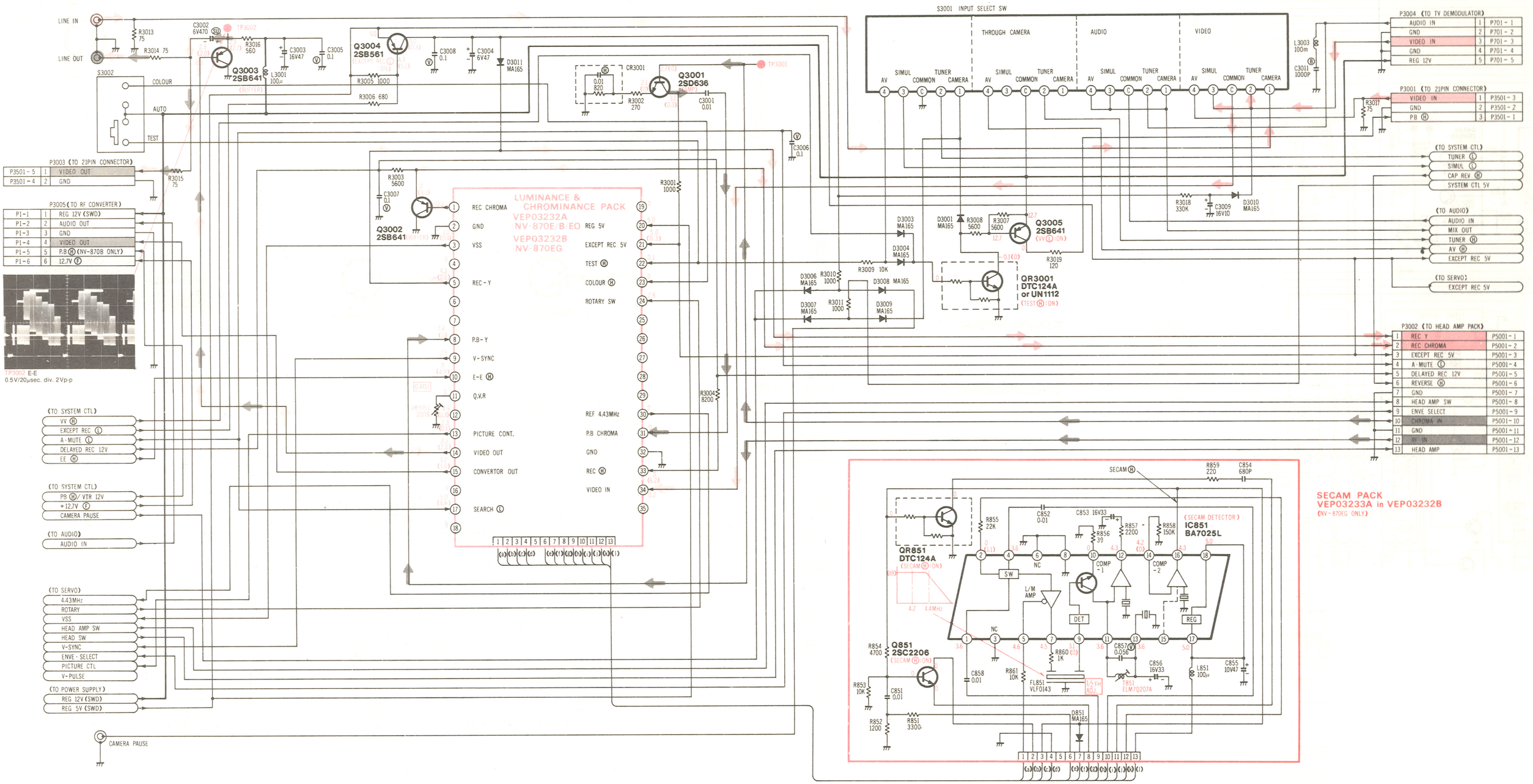
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
1	2.2Vp-p (REC/P.B)	36	0.25Vp-p (P.B)
3	0.6Vp-p (REC/P.B)	38	0.2Vp-p (P.B)
4	4.9Vp-p (REC/P.B)	39	0.25Vp-p (P.B)
5	1.0Vp-p (REC/P.B)	41	0.6Vp-p (P.B)
7	0.3Vp-p (P.B)	42	0.6Vp-p (P.B)
10	2.0Vp-p (REC/P.B)	50	4.0Vp-p (P.B)
19	0.3Vp-p (REC/P.B)	56	0.5Vp-p (P.B)
20	0.5Vp-p (REC) 0.4Vp-p (P.B)	57	0.25Vp-p (P.B)
26	2.8Vp-p PAUSE/ STILL	58	0.05Vp-p (P.B)
28 (REC)	0.4Vp-p (REC)	61	0.3Vp-p (REC/P.B)
28 (P.B)	0.4Vp-p (P.B)	68	0.8Vp-p (REC)
29	6.3Vp-p (P.B)	76	0.8Vp-p (REC)
31	0.7Vp-p (P.B)		

IC801 (VEFC009)

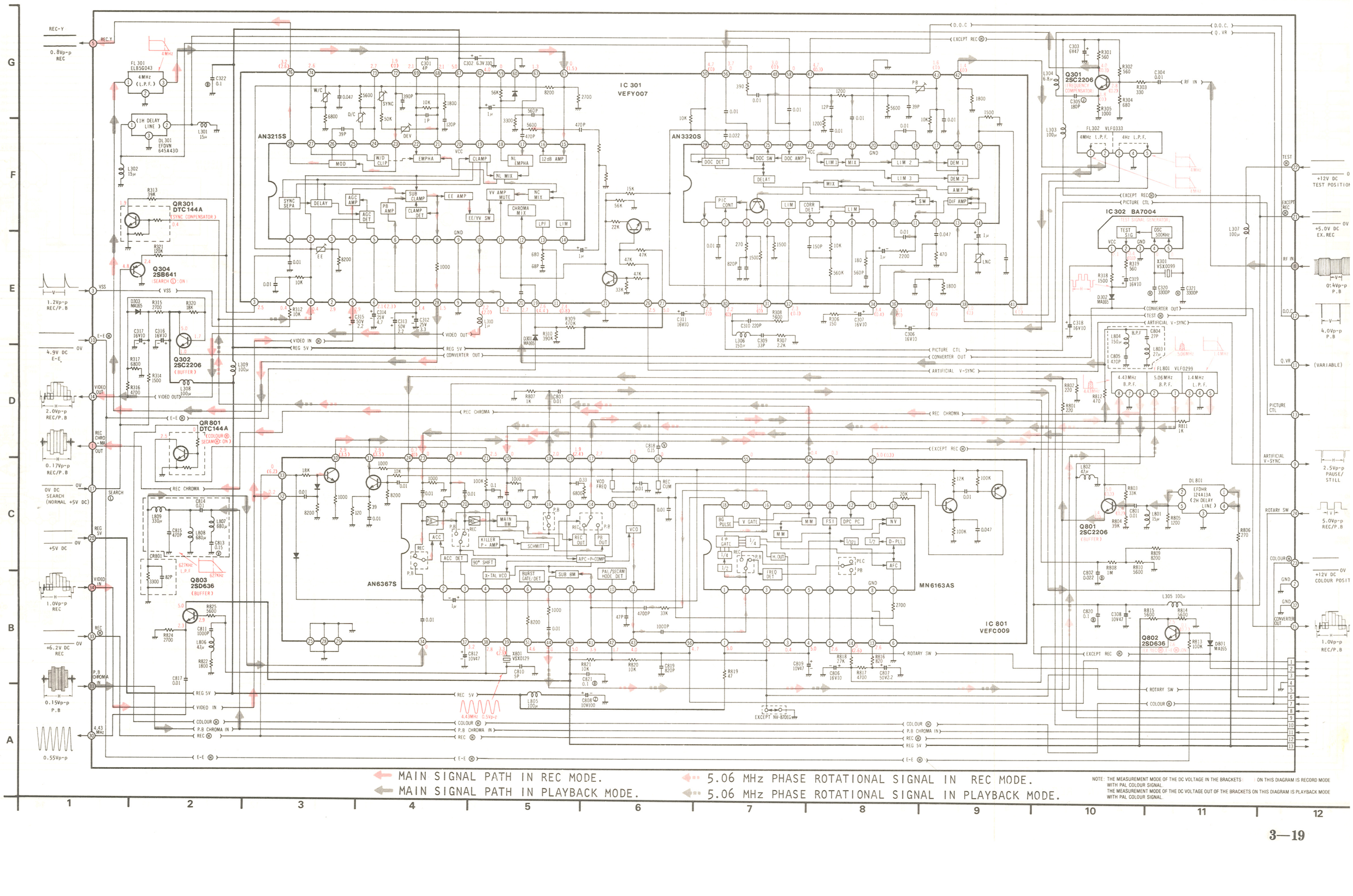
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
5	5.0Vp-p (REC/P.B)	30, 31 (P.B)	0.8Vp-p (P.B)
16	0.18Vp-p (REC)	34	0.15Vp-p (P.B)
17	0.9Vp-p (REC) 0.7Vp-p (P.B)	38	0.6Vp-p (REC/P.B)
18	0.7Vp-p (REC) 2.0Vp-p (P.B)	39	0.7Vp-p (REC/P.B)
20	0.18Vp-p (REC/P.B)	44	0.3Vp-p (REC/P.B)
22	0.55Vp-p (REC/P.B)	51	5.0Vp-p (REC/P.B)
23	0.2Vp-p (REC) 0.5Vp-p (P.B)	54	4.8Vp-p (REC/P.B)
24	0.1Vp-p (P.B)	56	4.8Vp-p (REC/P.B)
30, 31 (REC)	1.0Vp-p (REC)		

3-17. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE. MAIN SIGNAL PATH IN PLAYBACK MODE.

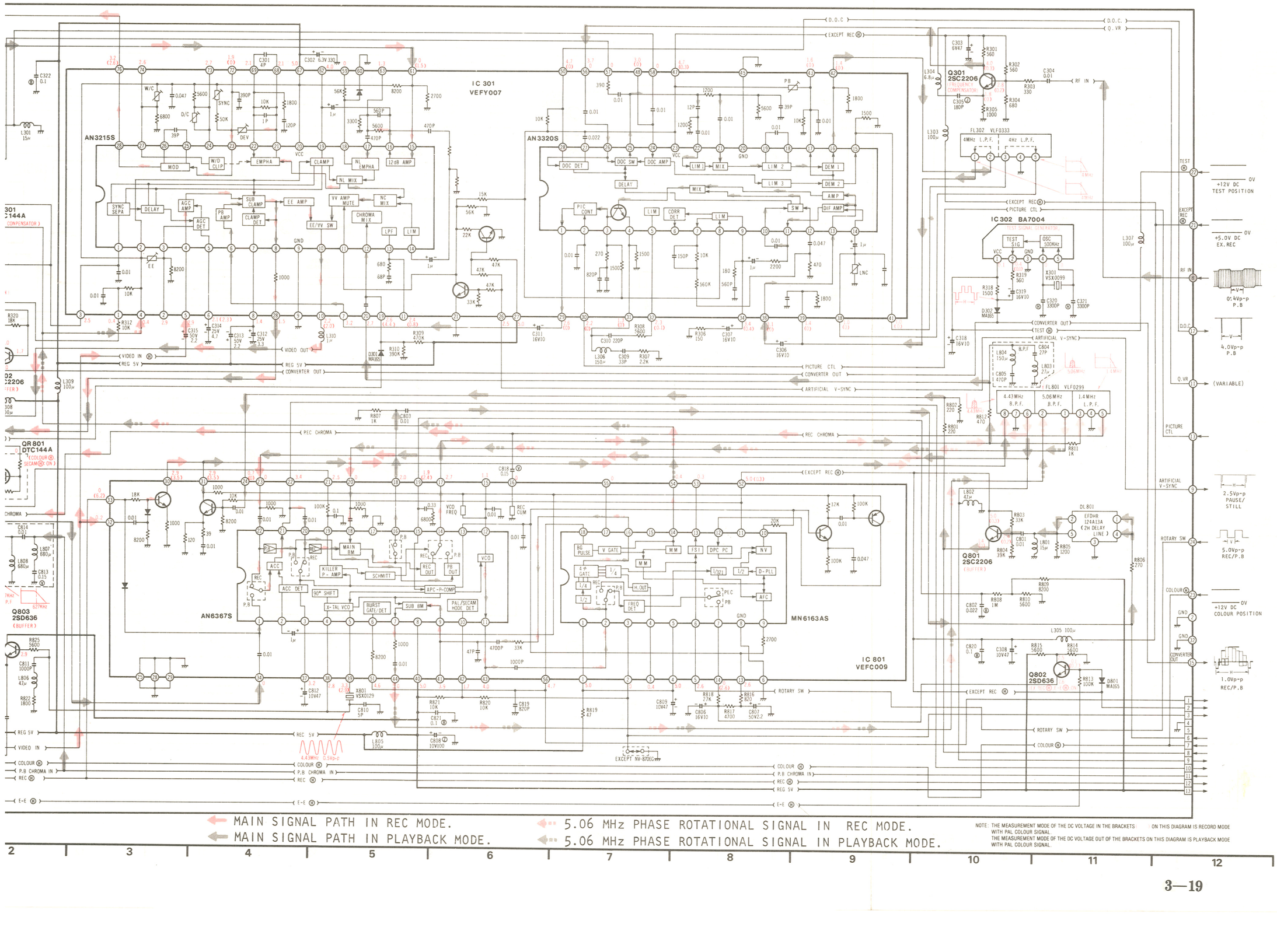


LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

LUMINANCE PACK SCHEMATIC DIAGRAM



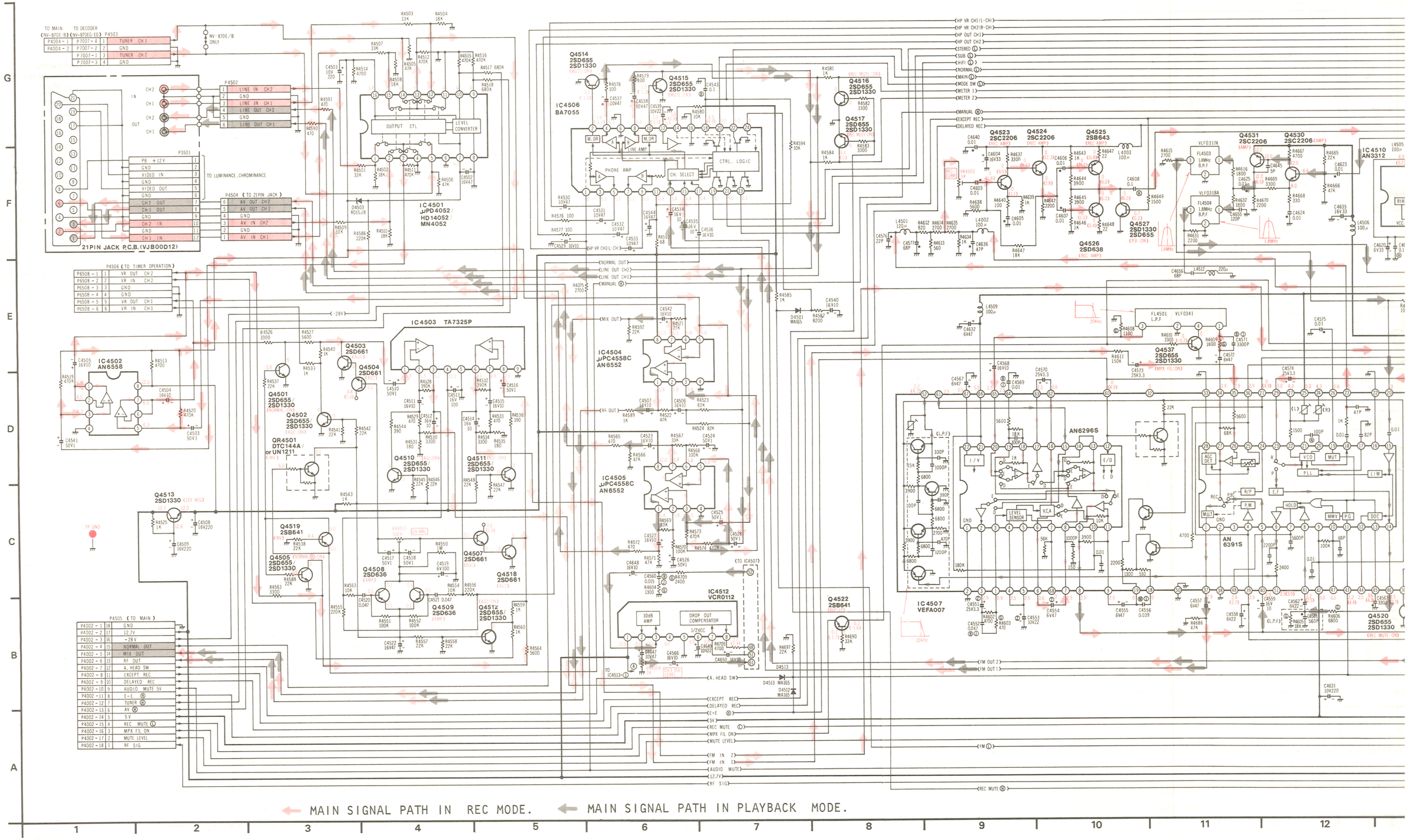
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

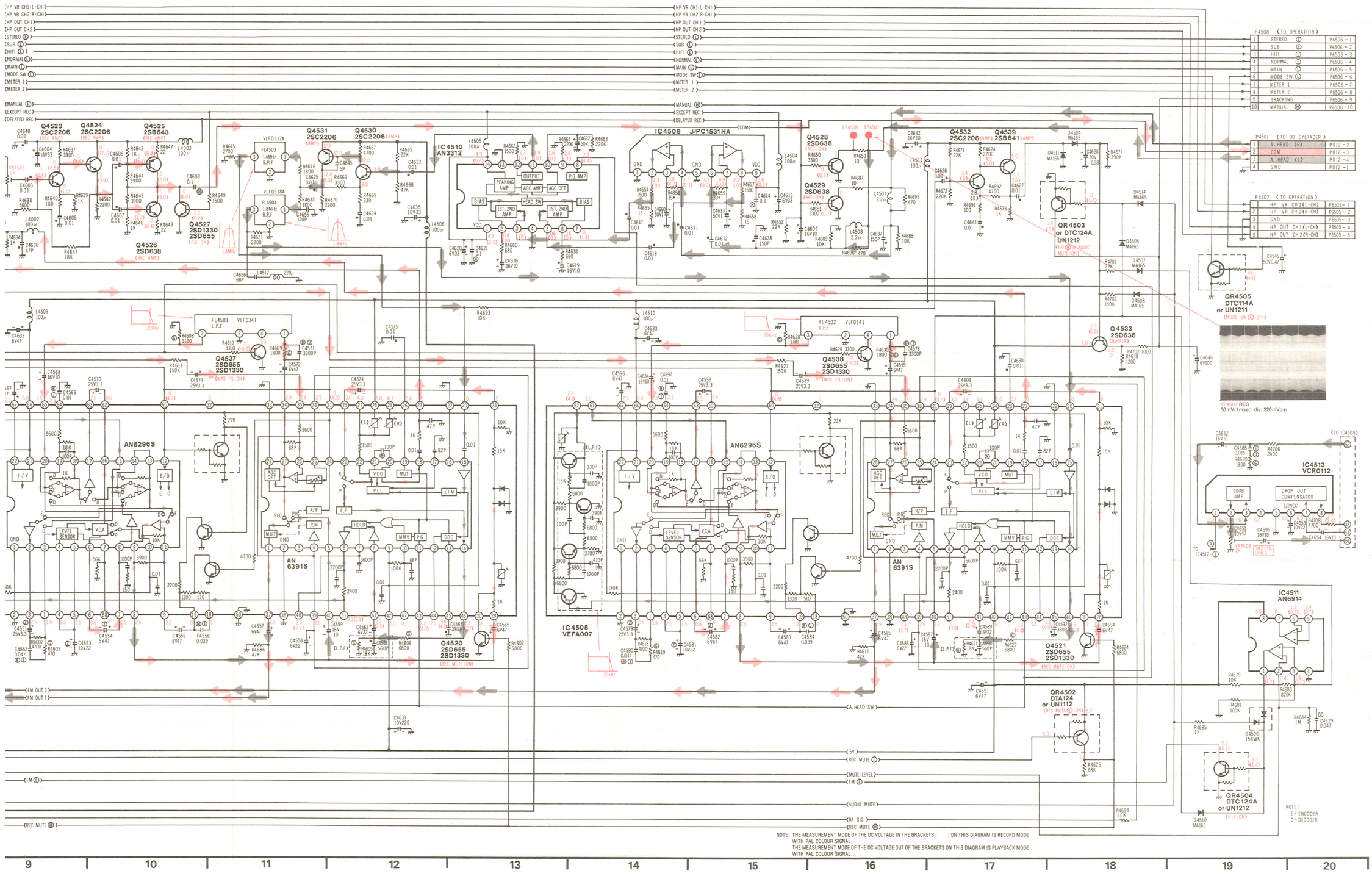
LUMINANCE & CHROMINANCE PACK SCHEMATIC	
Transistor	
Q301	G-10
Q302	D-2
Q304	E-2
Q801	C-10
Q802	B-11
Q803	B-2
Transistor & Resistor	
QR301	F-2
QR801	D-2
Integrated Circuit	
IC301	G-6
IC302	F-10
IC801	B-9

ADDRESS INFORMATION

Next Page:
FM AUDIO Section

3-18. FM AUDIO SCHEMATIC DIAGRAM





FM AUDIO SCHEMATIC

Transistor

Q4501	D-3
Q4502	D-3
Q4503	E-3
Q4504	D-3
Q4505	C-3
Q4507	C-4
Q4508	C-4
Q4509	B-4
Q4510	D-4
Q4511	D-5
Q4512	B-5
Q4513	C-2
Q4514	G-5
Q4515	G-6
Q4516	G-8
Q4517	G-8
Q4518	C-5
Q4519	C-3
Q4520	B-13
Q4521	B-18
Q4522	B-8
Q4523	F-9
Q4524	F-9
Q4525	F-10
Q4526	F-10
Q4527	F-10
Q4528	F-16
Q4529	F-16
Q4530	F-12
Q4531	F-11
Q4532	F-17
Q4533	E-18
Q4537	E-11
Q4538	E-16
Q4539	F-17

Transistor & Resistor

QR4501	D-3
QR4502	B-18
QR4503	F-18
QR4504	A-19
QR4505	E-19

Integrated Circuit

IC4501	F-4
IC4502	D-1
IC4503	E-4
IC4504	E-6
IC4505	C-6
IC4506	G-5
IC4507	B-9
IC4508	B-14
IC4509	F-14
IC4510	F-13
IC4511	C-20
IC4512	B-6
IC4513	C-20

Test Point

TP4507	G-16
TP4508	G-16
TP GND	C-1

Adjustment

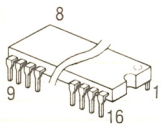
VR4503	F-9
VR4504	D-8
VR4508	D-13
VR4511	C-4

Connector

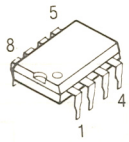
P3501	F-2
P4501	F-19
P4502	G-2
P4503	G-1
P4504	F-2
P4505	B-1
P4506	E-1
P4507	F-19
P4508	G-19

ADDRESS INFORMATION

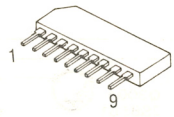
ICs & TRANSISTORs INFORMATION



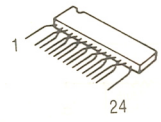
μPD4052



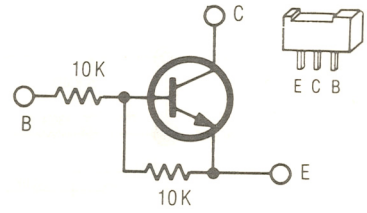
AN6558
μPC4558C
AN6914



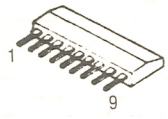
TA7325P



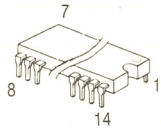
BA7055



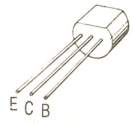
DTC114A



μPC1531HA

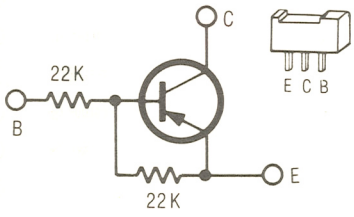


AN3312

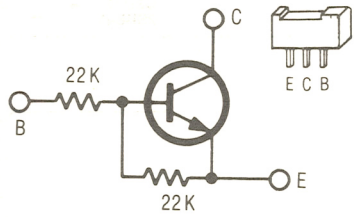


2SD1330

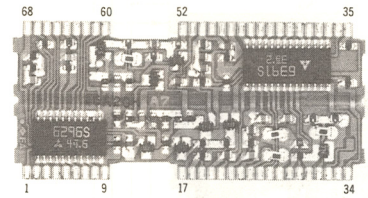
2SD661
2SB641
2SC2206
2SB643
2SD638



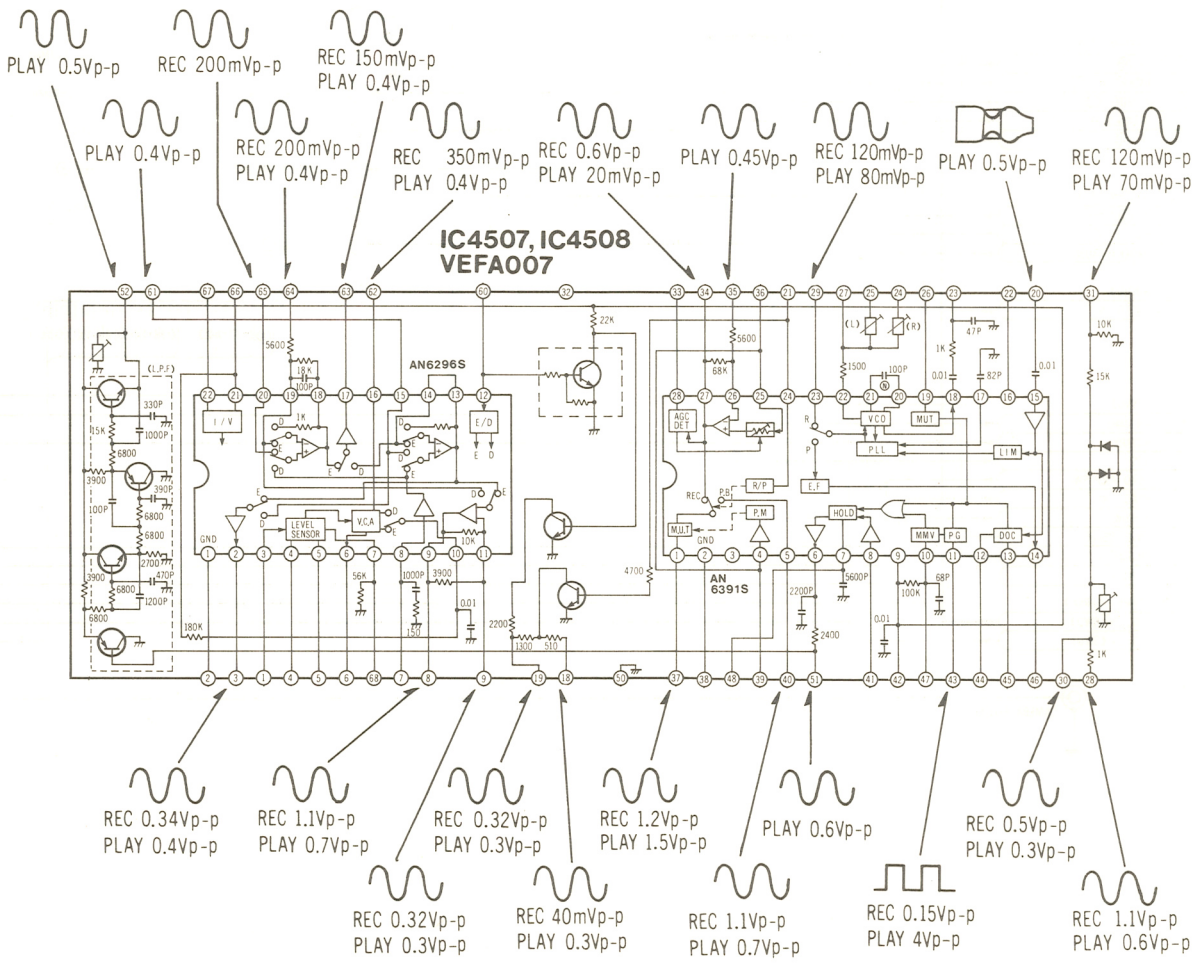
DTA124A



DTC124A



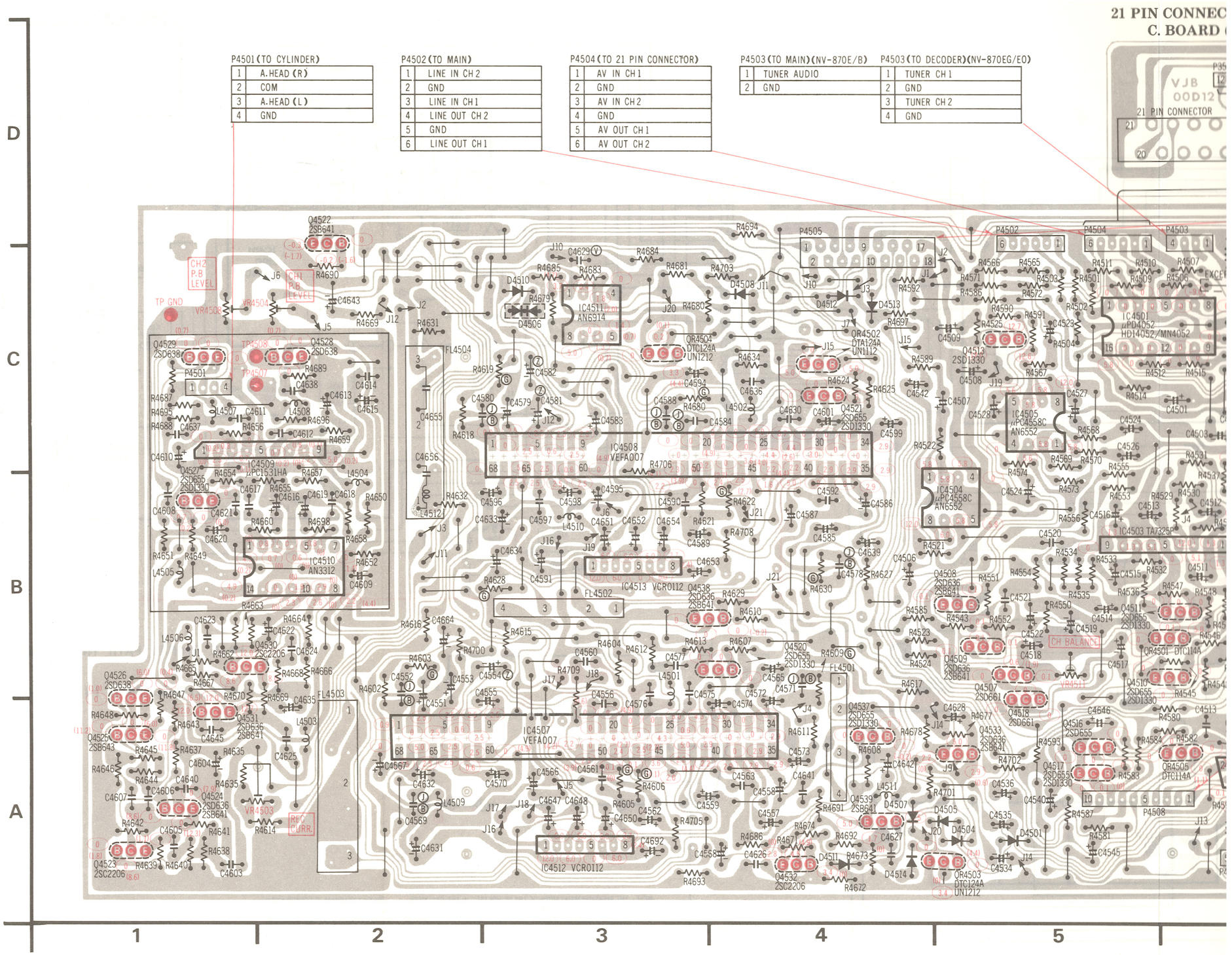
VEFA007



3-19. FM AUDIO CIRCUIT BOARD (VEP04106A: NV-870E/B, VEP04106B: NV-870EG/EO)

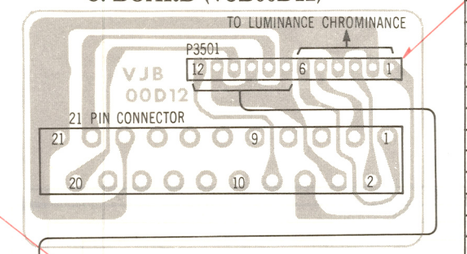
FM AUDIO CIRCUIT BOARD	
Transistor	
Q4501	C-6
Q4502	B-6
Q4503	B-6
Q4504	B-6
Q4505	B-6
Q4507	B-5
Q4508	B-5
Q4509	B-5
Q4510	B-6
Q4511	B-6
Q4512	B-6
Q4513	C-5
Q4514	B-6
Q4515	B-6
Q4516	A-5
Q4517	A-5
Q4518	A-5
Q4519	B-6
Q4520	B-4
Q4521	C-4
Q4522	D-2
Q4523	A-1
Q4524	A-1
Q4525	A-1
Q4526	B-1
Q4527	B-1
Q4528	C-2
Q4529	C-1
Q4530	B-2
Q4531	A-1
Q4532	A-4
Q4533	A-5
Q4537	A-4
Q4538	B-3
Q4539	A-4
Transistor & Resistor	
QR4501	B-6
QR4502	C-4
QR4503	A-5
QR4504	C-3
QR4505	A-6
Integrated Circuit	
IC4501	C-5
IC4502	C-6
IC4503	B-5
IC4504	B-5
IC4505	C-5
IC4506	C-3
IC4507	A-3
IC4508	C-3
IC4509	C-2
IC4510	B-2
IC4511	C-3
IC4512	A-3
IC4513	B-3
Test Point	
TP4507	C-1
TP4508	C-1
TP GND	C-1
Adjustment	
VR4503	A-2
VR4504	C-2
VR4508	C-1
VR4511	B-5

ADDRESS INFORMATION



IT BOARD (VEP04106A: NV-870E/B, VEP04106B: NV-870EG/EO)

21 PIN CONNECTOR
C. BOARD (VJB00D12)



01 (TO CYLINDER)

A.HEAD (R)	
COM	
A.HEAD (L)	
GND	

P4502 (TO MAIN)

1	LINE IN CH 2
2	GND
3	LINE IN CH 1
4	LINE OUT CH 2
5	GND
6	LINE OUT CH 1

P4504 (TO 21 PIN CONNECTOR)

1	AV IN CH 1
2	GND
3	AV IN CH 2
4	GND
5	AV OUT CH 1
6	AV OUT CH 2

P4503 (TO MAIN) (NV-870E/B)

1	TUNER AUDIO
2	GND

P4503 (TO DECODER) (NV-870EG/EO)

1	TUNER CH 1
2	GND
3	TUNER CH 2
4	GND

P3501

1	PB +12V
2	GND
3	VIDEO IN
4	GND
5	VIDEO OUT
6	GND
7	CH 2 OUT
8	CH 1 OUT
9	GND
10	CH 2 IN
11	GND
12	CH 1 IN

P4505 (TO MAIN)

1	GND
2	+12V
3	−28V
4	NORMAL OUT
5	MIX OUT
6	RF. OUT
7	A. HEAD SW
8	EXCEPT REC
9	DELAYED REC
10	AUDIO MUTE 5V
11	E·E Ⓗ 5V
12	TUNER Ⓗ
13	AV Ⓗ
14	+5V
15	REC MUTE Ⓛ
16	MPX FIL ON
17	MUTE LEVEL
18	RF SIG

P4506 (TO TIMER OPERATION)

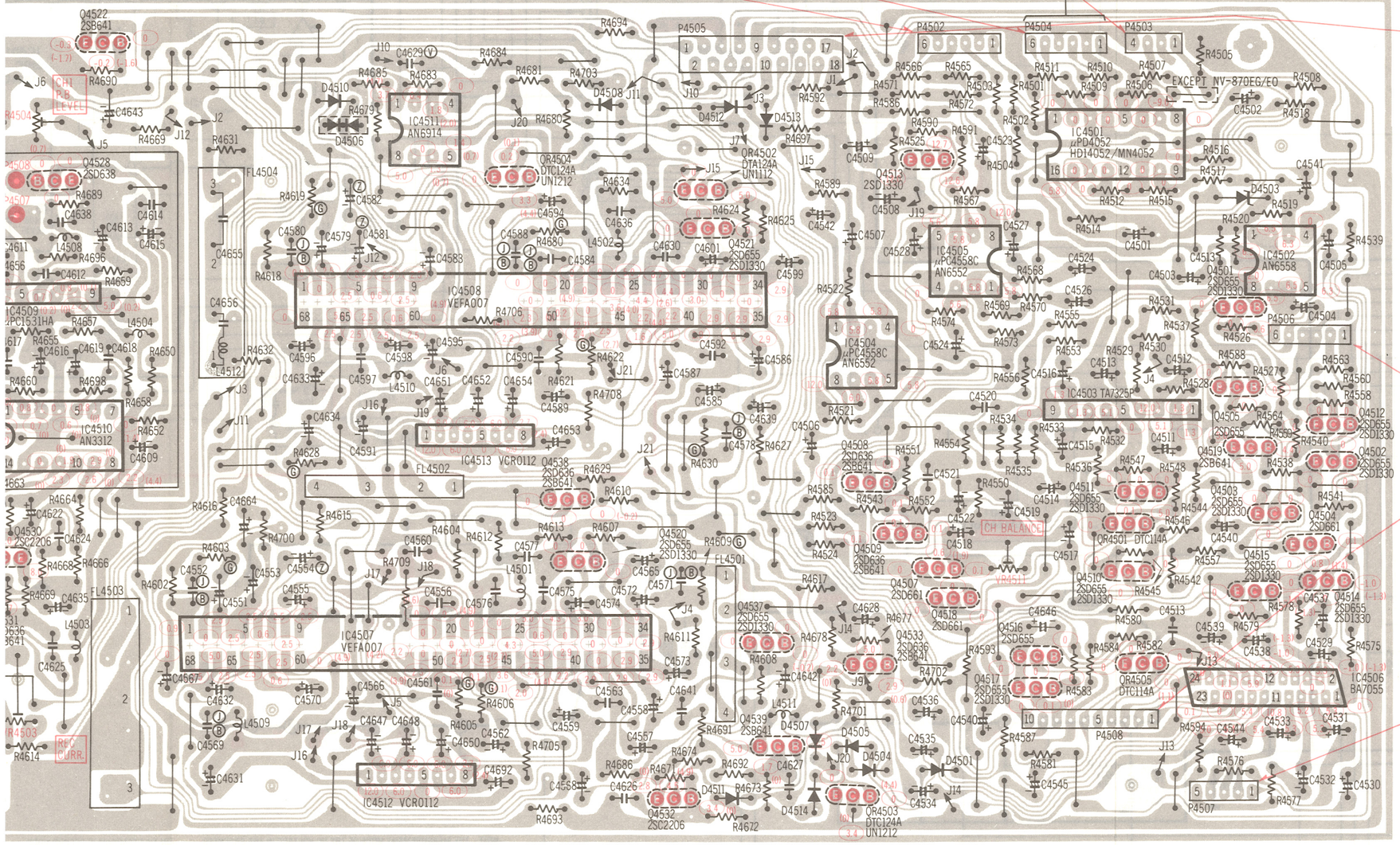
1	REC VR OUT CH 2 (R)
2	REC VR IN CH 2 (R)
3	GND
4	GND
5	REC VR OUT CH 1 (L)
6	REC VR IN CH 1 (L)

P4508 (TO OPERATION)

1	STEREO Ⓛ
2	SUB Ⓛ
3	HI-FI Ⓛ
4	NORMAL Ⓛ
5	MAIN Ⓛ
6	MODE SW Ⓛ
7	METER 1
8	METER 2
9	TRACKING
10	MANUAL Ⓗ

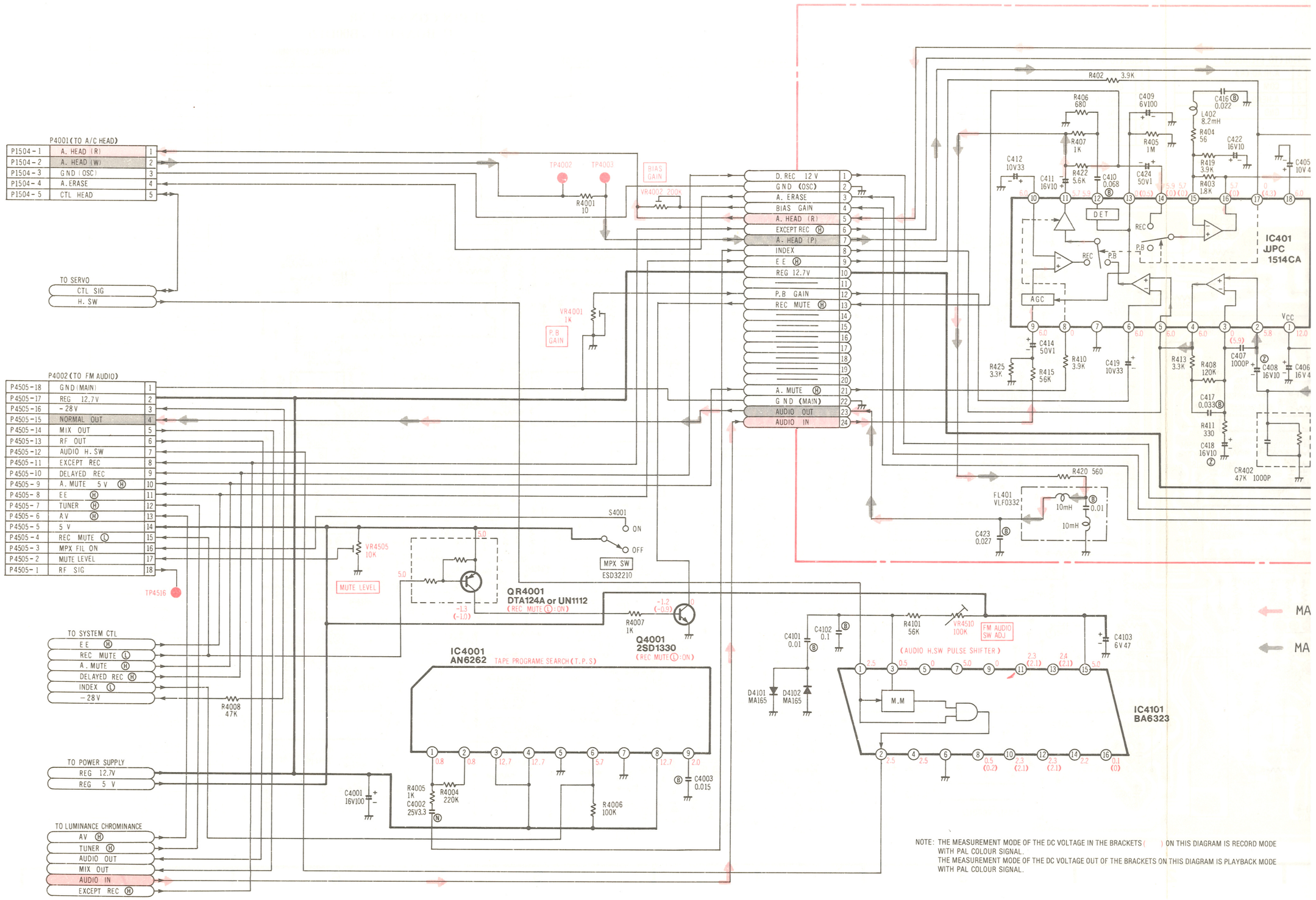
P4507 (TO OPERATION)

1	HP VR CH 1 (L)
2	HP VR CH 2 (R)
3	GND
4	HP OUT CH 1 (L)
5	HP OUT CH 2 (R)



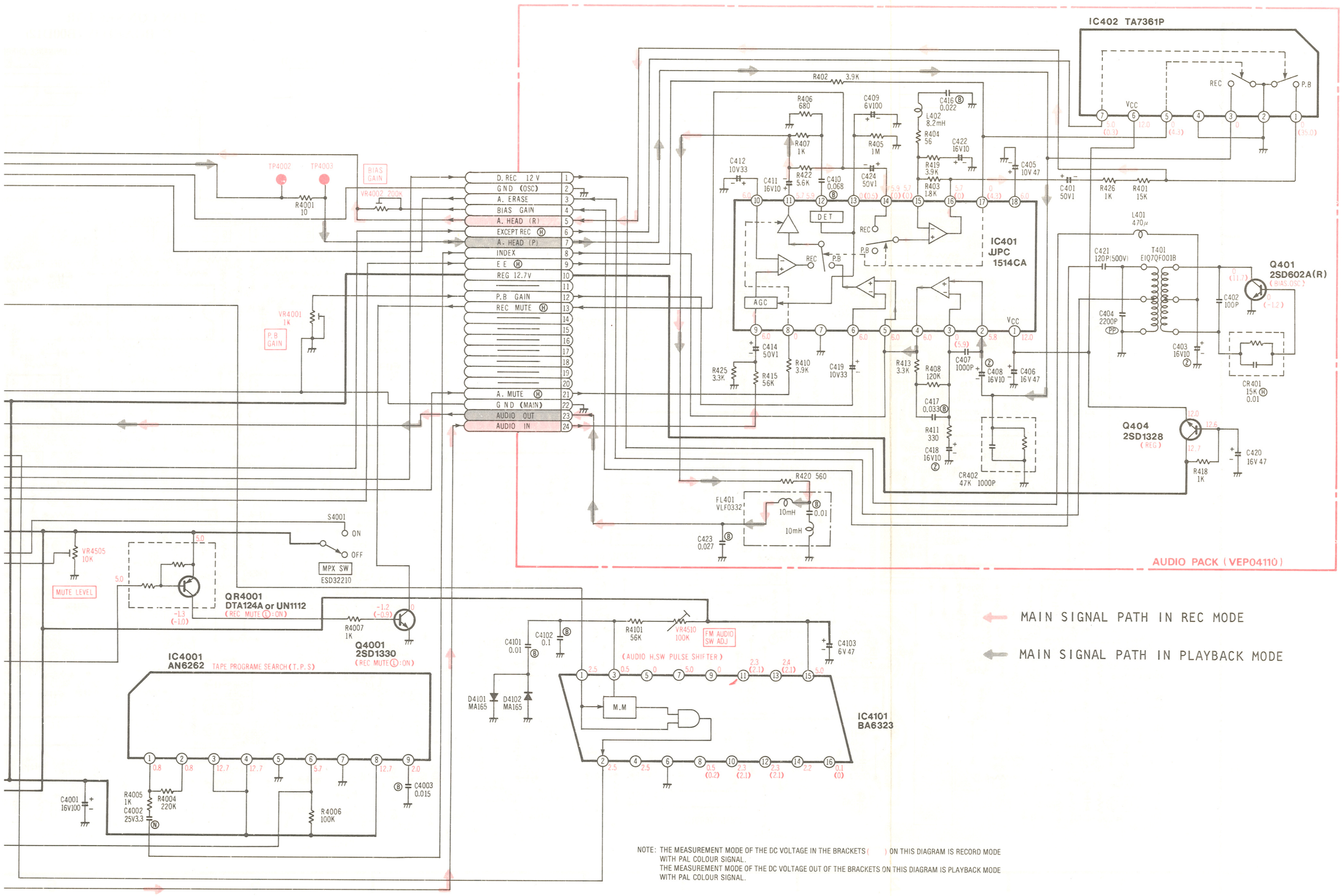
Next Page:
AUDIO Section

3-20. AUDIO SCHEMATIC DIAGRAM



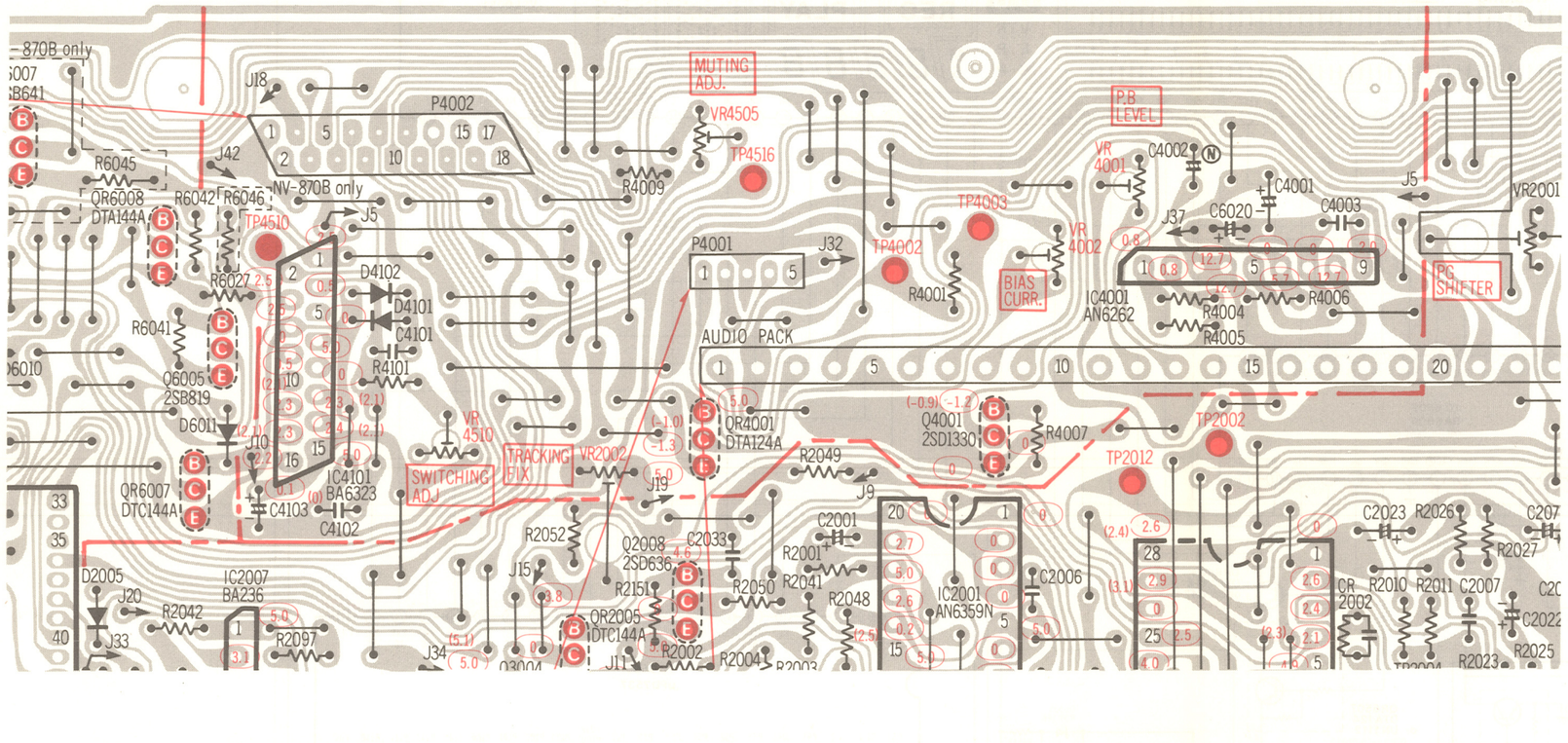
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

GRAM

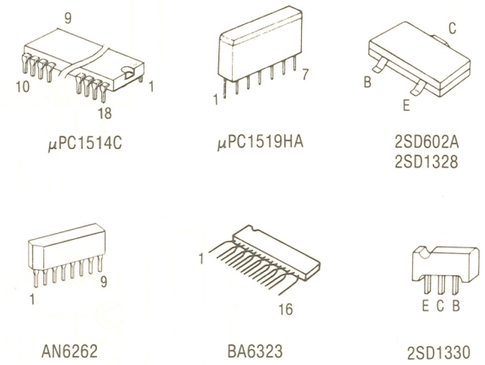


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

3-21. AUDIO Section in Main Circuit Board
(VEP03229A: NV-870E/EO, VEP03229B: NV-870B, VEP03229C: NV-870EG)



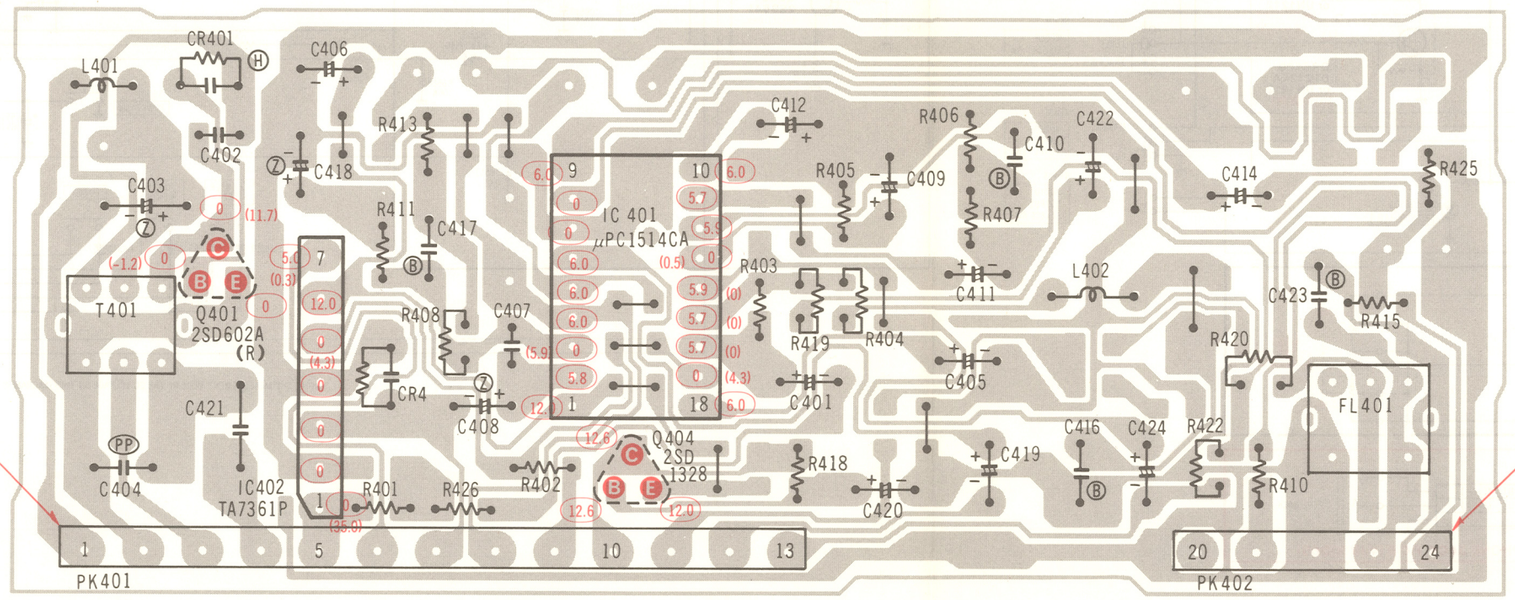
ICs & TRANSISTORs INFORMATION



AUDIO PACK C. BOARD UNIT (VEP04110)

PK401

1	D. REC 12V
2	GND (OSC)
3	A. ERASE
4	BIAS GAIN
5	A. HEAD (R)
6	E. REC Ⓗ
7	A. HEAD (P)
8	INDEX
9	EE Ⓗ
10	REG 12V
11	———
12	P.B.
13	REC MUTE Ⓗ

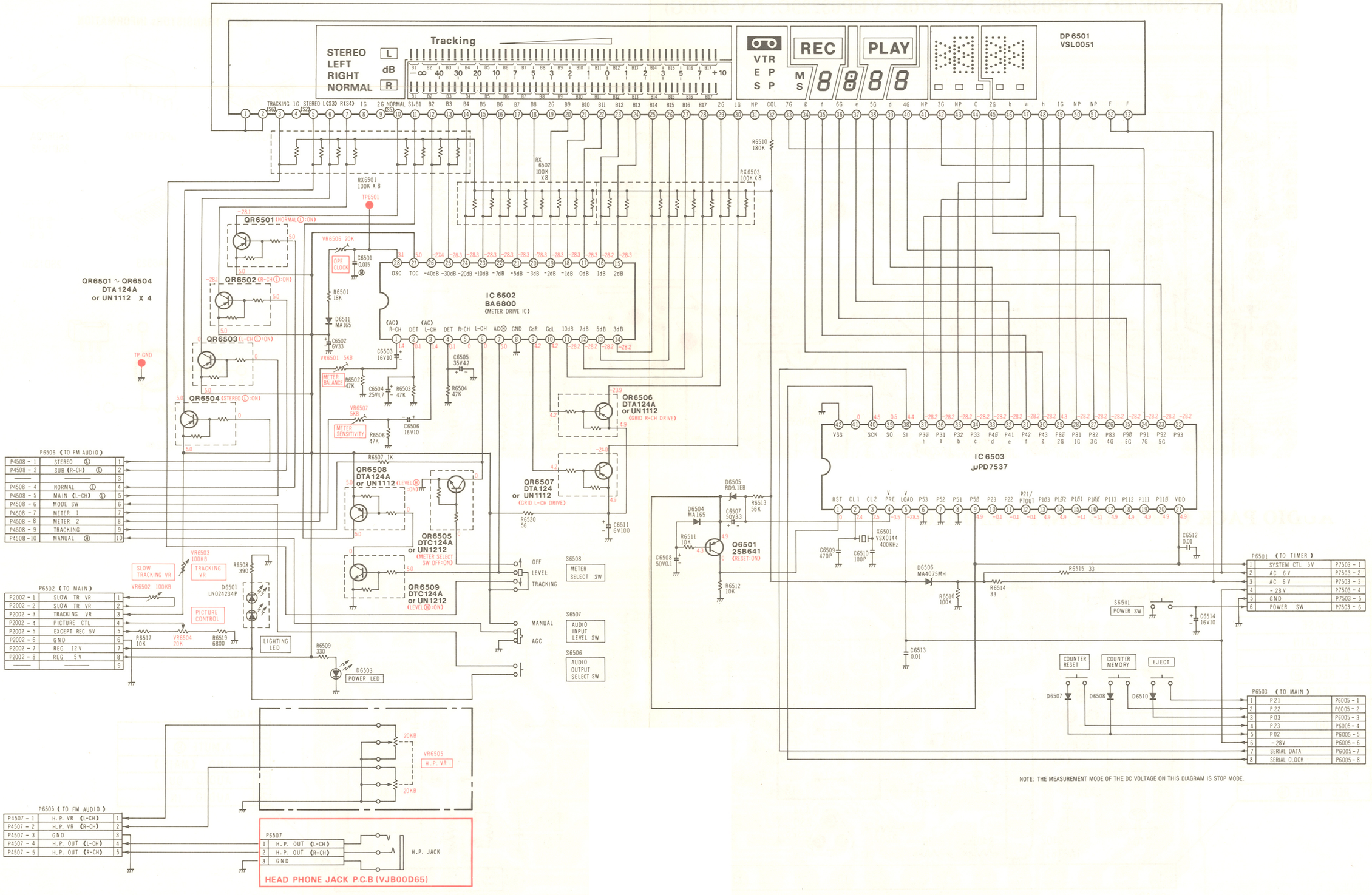


PK402

20	———
21	A. MUTE Ⓗ
22	GND (MAIN)
23	AUDIO OUT
24	AUDIO IN

3—23

3-22. OPERATION SCHEMATIC DIAGRAM

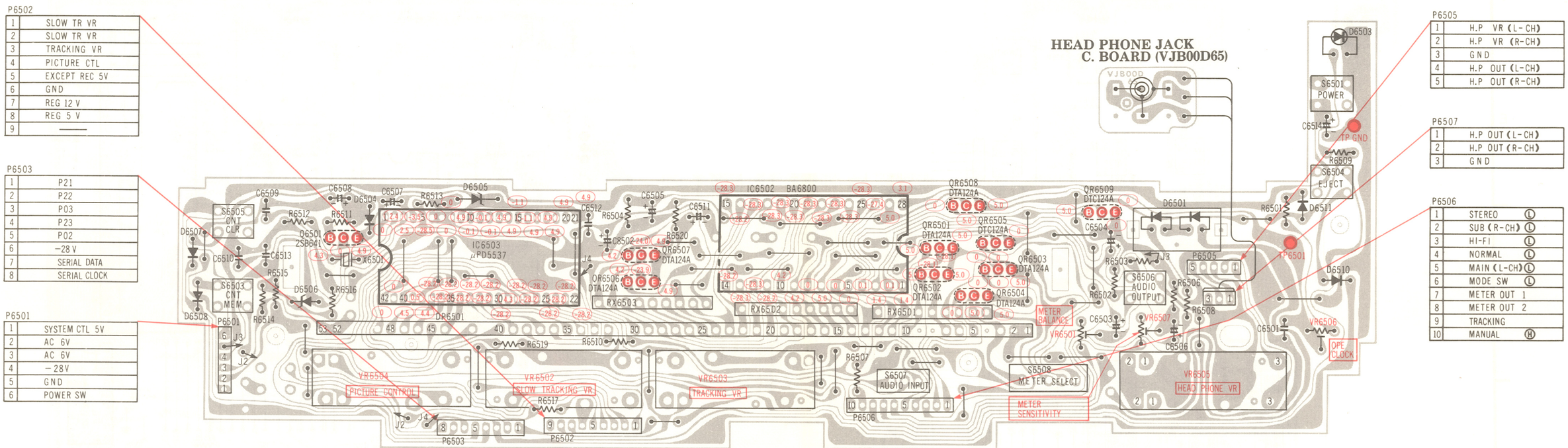


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

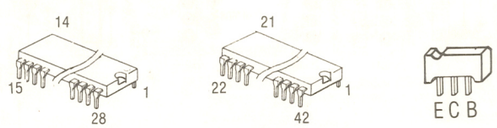
Back Page:
AUDIO Section

3—24

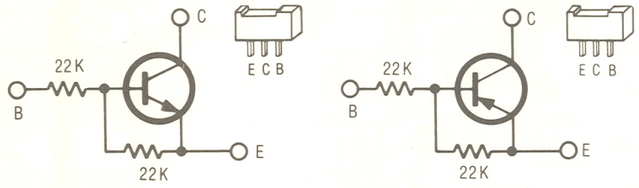
3-23. OPERATION CIRCUIT BOARD (VEP06239A)



ICs & TRANSISTORs INFORMATION



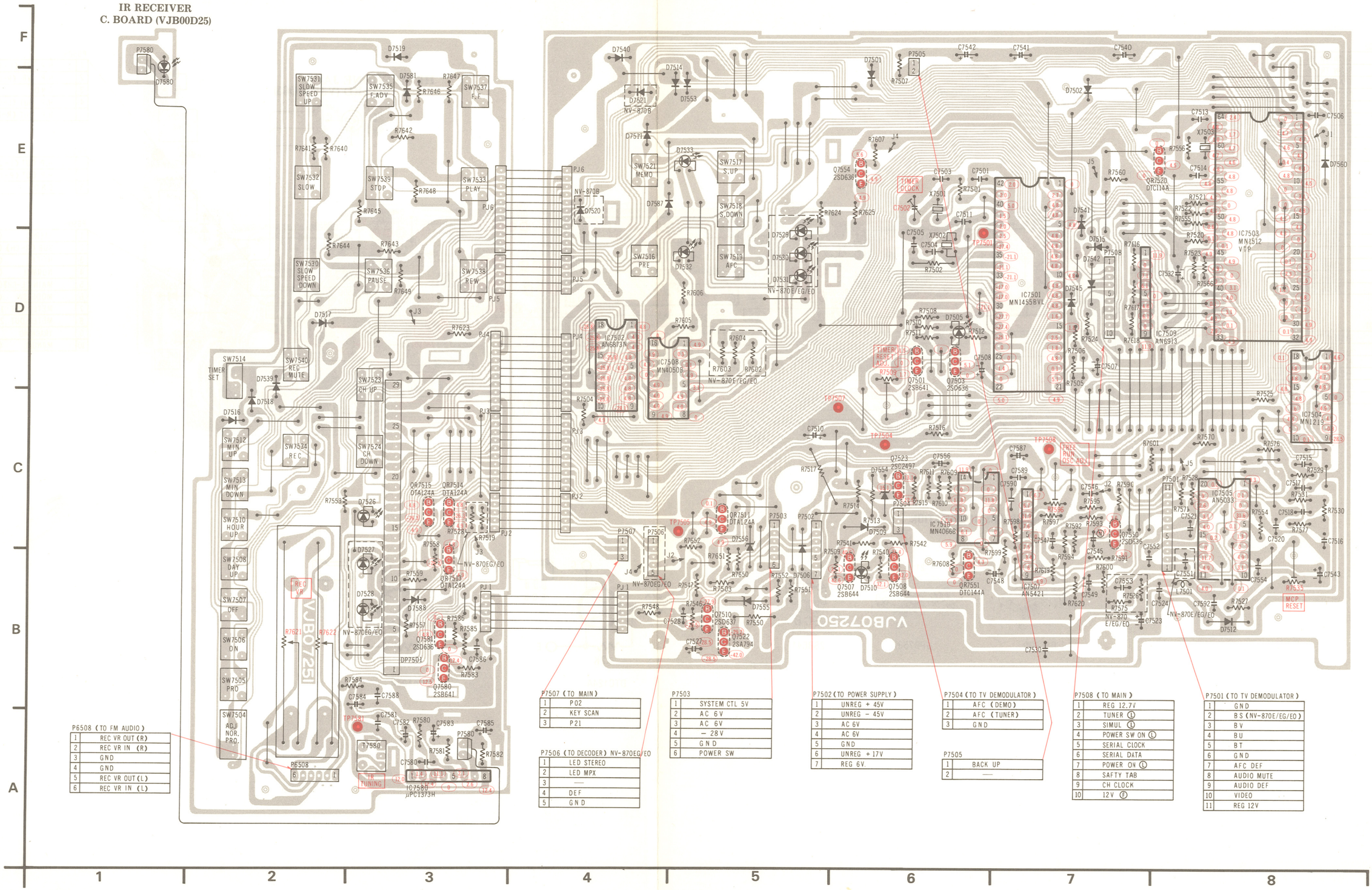
BA6800 μPD7537 2SB641



DTC124A DTA124A

3—25

3-24. TIMER & TIMER OPERATION CIRCUIT BOARD (VEP07250A: NV-870EG/EO,VEP07250B: NV-870B, VEP07250C: NV-870E, VEP07251A: NV-870EG/EO, VEP07251B: NV-870E/B)



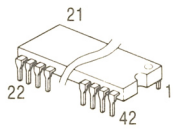
Back Page:
OPERATION Section

3—26

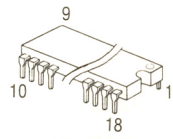
ICs & TRANSISTORs INFORMATION

TIMER & TIMER OPERATION CIRCUIT BOARD	
Transistor	
Q7501	D-6
Q7503	D-6
Q7507	B-6
Q7508	B-6
Q7510	B-5
Q7522	B-5
Q7523	C-6
Q7550	C-7
Q7554	E-6
Q7580	B-3
Q7581	B-3
Transistor & Resistor	
QR7511	C-5
QR7513	B-3
QR7514	C-3
QR7515	C-3
QR7520	E-8
QR7551	B-6
Integrated Circuit	
IC7501	D-7
IC7502	D-4
IC7503	D-8
IC7504	C-8
IC7505	C-8
IC7507	B-7
IC7508	D-5
IC7509	D-8
IC7510	C-6
IC7580	A-3
Test Point	
TP7501	E-6
TP7504	C-6
TP7505	C-5
TP7507	C-6
TP7508	C-7
TP7581	A-3
Adjustment	
R7509	C-6
R7535	B-8
R7596	C-7
C7502	D-6
T7580	A-3

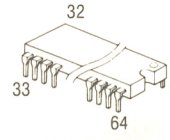
ADDRESS INFORMATION



MN1455BVL

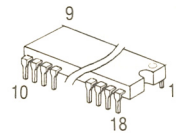


AN6873N

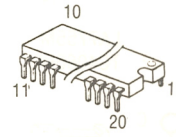


MN1512VTP

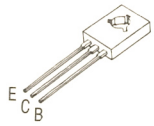
2SB641
2SD636
2SB644
2SD637



MN1219



AN5033



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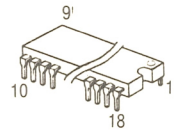
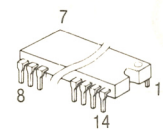
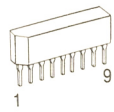
2SC2497



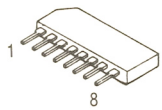
MN4050UB



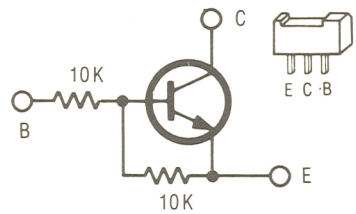
MN4066B



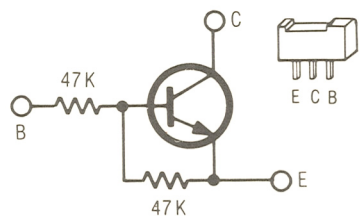
AN5421
AN6913



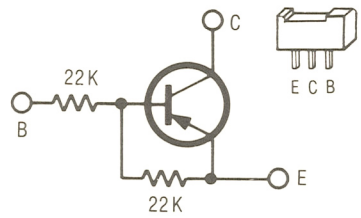
μPC1373HA



DTC114A



DTC144A

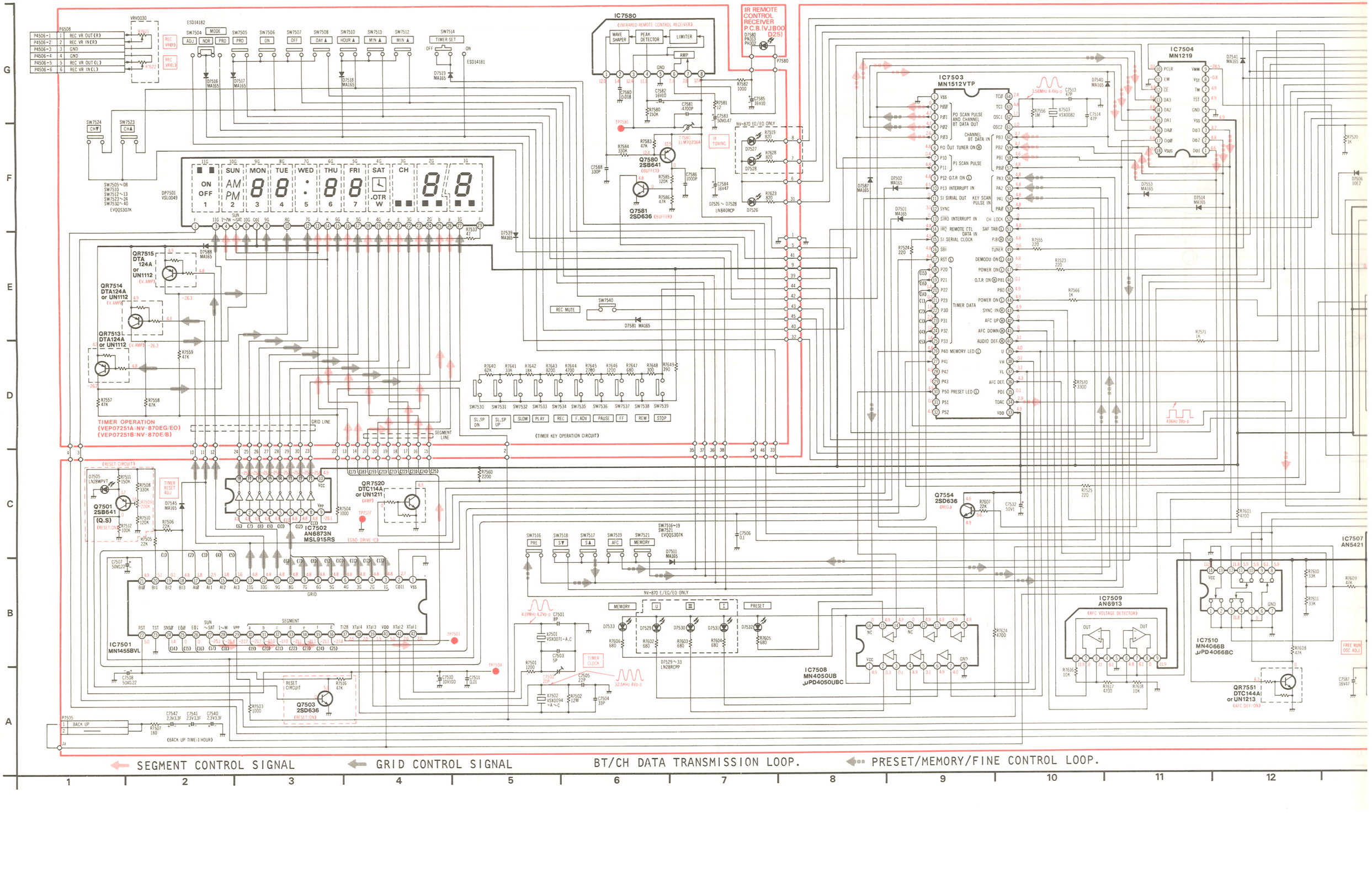


DTA124A

TIMER & TIMER OPERATION SCHEMATIC	
Transistor	
Q7501	C-2
Q7503	A-3
Q7507	F-15
Q7508	F-15
Q7510	E-14
Q7522	E-15
Q7523	F-14
Q7550	B-16
Q7554	C-9
Q7580	F-7
Q7581	F-6
Transistor & Resistor	
QR7511	E-13
QR7513	D-1
QR7514	E-1
QR7515	E-1
QR7520	C-4
QR7551	A-12
Integrated Circuit	
IC7501	B-2
IC7502	C-3
IC7503	G-9
IC7504	G-11
IC7505	D-14
IC7507	C-13
IC7508	B-8
IC7509	B-10
IC7510	B-12
IC7580	G-6
Test Point	
TP7501	B-5
TP7504	B-5
TP7505	F-13
TP7507	C-4
TP7508	B-14
TP7581	F-6
Adjustment	
R7509	C-2
R7535	D-13
R7596	B-13
C7502	B-5
T7580	F-7
Connector	
P6508	G-1
P7501	D-17
P7502	F-17
P7503	E-17
P7504	C-17
P7505	A-1
P7506	G-17
P7507	F-17
P7508	F-17

ADDRESS INFORMATION

3-25. TIMER & TIMER OPERATION SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IN THE FOLLOWING CONDITION.
1) MODE SELECTOR: CLOCK
2) SELECTION TIME: SUN 0:00, CH DISPLAY: AFC 1

IC7580 (INFRARED REMOTE CONTROL RECEIVER)
WAVE SHAPER
PEAK DETECTOR
LIMITER
AMP
GND

IR REMOTE CONTROL RECEIVER P.C.B. (VJB00)
D7580 PN113 PH302
D25)
P7580

TP7581
T7580 ELM7Q206A
IR TUNING

Q7580 2SB641 (BUFFER)
Q7581 2SD636 (BUFFER)

NV-870 EG/EO ONLY
D7527
D7528
D7526 ~ D7528 LN840RCP
D7526

IC7503 MN1512VTP
P0 SCAN PULSE AND CHANNEL BT DATA OUT
CHANNEL BT DATA IN
P0 OUT TUNER ON
P1 SCAN PULSE
P12 O.T.R ON
P13 INTERRUPT IN
SI SIRIAL OUT
KEY SCAN PULSE IN
SYNC
SIRO INTERRUPT IN
CH LOCK
IRQ REMOTE CTL DATA IN
SAF TAB
SI SERIAL CLOCK
P.B
TUNER
SBI
DEMODU ON
RST
POWER ON
P20
O.T.R ON
P21
P22
P23
TIMER DATA
POWER ON
P30
SYNC IN
P31
AFC UP
P32
AFC DOWN
P33
AUDIO DEF.
P40 MEMORY LED
U
P41
VH
P42
VL
P43
AFC DEF.
P50 PRESET LED
PDI
P51
TDAC
P52
VDD
3.56MHz 4.4Vp-p
X7503 VSX0082

IC7504 MN1219
PCLR
EM
CE
DA3
DA2
DA1
DAØ
DØØ
VSUS
VMM
VST
TM
TST
GND
VSS
DO3
DO2
DO1

D7540 MA165
D7541 MA165
D7587 MA165
D7502 MA165
D7501 MA165
D7553 MA165
D7514 MA165

SW7540
D7581 MA165
SW7536 SW7537 SW7538 SW7539
PAUSE FF REW STOP
SW7516~19 SW7521 EVQQS307K
SW7519 AFC
SW7521 MEMORY
D7511 MA165
C7506 0.1

NV-870 E/EG/EO ONLY
MEMORY U III I PRESET
D7533 D7529 D7530 D7531 D7532
D7529~33 LN28RCPP

IC7508 MN4050UB μPD4050UBC

Q7554 2SD636 (REG.)

IC7509 AN6913 (AFC VOLTAGE DETECTOR)

IC7510 MN4066B μPD4066BC

QR7551 DTC144A or UN1213 (AFC DET-ON)

IC7507 AN5421
NOISE GATE
SYNC. SEPA.
H-OSC
H-AFC
(H-SYNC DETECTOR)
VOLTAGE COMP.
FILTER
OUT PUT
VCC
GND

FREE RUN OSC ADJ.

IC7505 AN5033
IN
BT
GND
31V
PRE
5V
VR
PCLR
OUT
DAC
12V
VL
U
BS
BU
BV
RST
CR
436Hz 30Vp-p

MCP RESET

TP7505
TP7508

(12V REGULATOR)
Q7523 2SC2497

(30V REGULATOR)
Q7508 2SB644
Q7507 2SB644
D7510 LN28WPVT
D7509 MA27WB

(-28V REGULATOR)
Q7522 2SA794 (R,S)
D7555 RD30EB2

(POWER SW ON:ON)
Q7510 2SD637
QR7511 DTA124A or UN1112 (POWER SW ON:ON)

Q7550 2SD636 (BUFFER)

D7542 MA165
D7556 RD7.5EB MA1075

NV-870E/EG/EO ONLY

0~30V (VARIABLE)

NV-870EG/EO ONLY

P7506 (TO DECODER)

1	LED STERO STEREO	P7006 - 1
2	LED MPX	P7006 - 2
3	——	——
4	DEF	P7006 - 4
5	GND	P7006 - 5

P7507 (TO MAIN)

1	P02	P6002 - 1
2	KEY SCAN	P6002 - 2
3	P21	P6002 - 3

P7508 (TO MAIN)

1	REG 12.7V	P6003 - 1
2	TUNER ⊖	P6003 - 2
3	SIMUL ⊖	P6003 - 3
4	POWER SW ON ⊖	P6003 - 4
5	SERIAL CLOCK	P6003 - 5
6	SERIAL DATA	P6003 - 6
7	POWER ON ⊖	P6003 - 7
8	SAFTY TAB	P6003 - 8
9	CH LOCK	P6003 - 9
10	12V ⊖	P6003 - 10

P7502 (TO POWER SUPPLY)

1	UNREG ⊖ 45V	P1104 - 1
2	UNREG ⊖ 45V	P1104 - 2
3	AC 6V	P1104 - 3
4	AC 6V	P1104 - 4
5	GND	P1104 - 5
6	UNREG 12V	P1104 - 6
7	REG 6V	P1104 - 7

P7503 (TO OPERATION)

1	SYSTEM CTL 5V	P6501 - 1
2	AC 6V	P6501 - 2
3	AC 6V	P6501 - 3
4	⊖ 28V	P6501 - 4
5	GND	P6501 - 5
6	POWER SW	P6501 - 6

P7501 (TO TV DEMODULATOR)

1	GND	P703 - 1
2	BS (NV-870E/EG/EO ONLY)	P703 - 2
3	BV (NV-870E/EG/EO ONLY)	P703 - 3
4	BU	P703 - 4
5	RT	P703 - 5
6	GND	P703 - 6
7	(AFC DEF)	P703 - 7
8	AUDIO MUTE	P703 - 8
9	AUDIO DEF	P703 - 9
10	VIDEO	P703 - 10
11	REG 12V	P703 - 11

P7504 (TO TV DEMODULATOR)

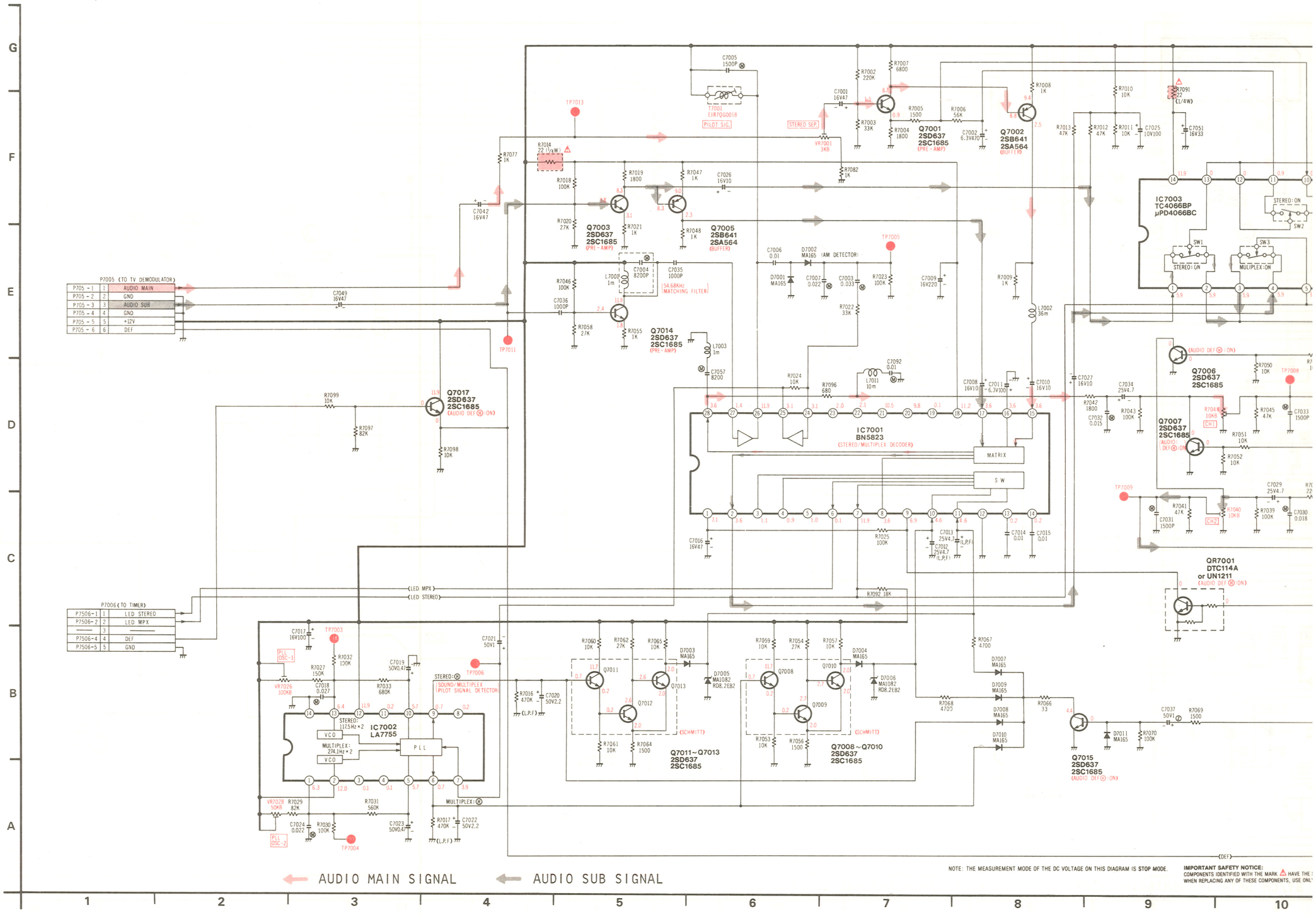
1	AFC (DEMO)	P702 - 1
2	AFC (TUNER)	P702 - 2
3	GND	P702 - 3

TIMER
(VEP07250A:NV-870EG/EO)
(VEP07250B:NV-870B)
(VEP07250C:NV-870E)

BT/CH DATA TRANSMISSION LOOP.
PRESET/MEMORY/FINE CONTROL LOOP.

6 7 8 9 10 11 12 13 14 15 16 17 18

3-26. DECODER SCHEMATIC DIAGRAM

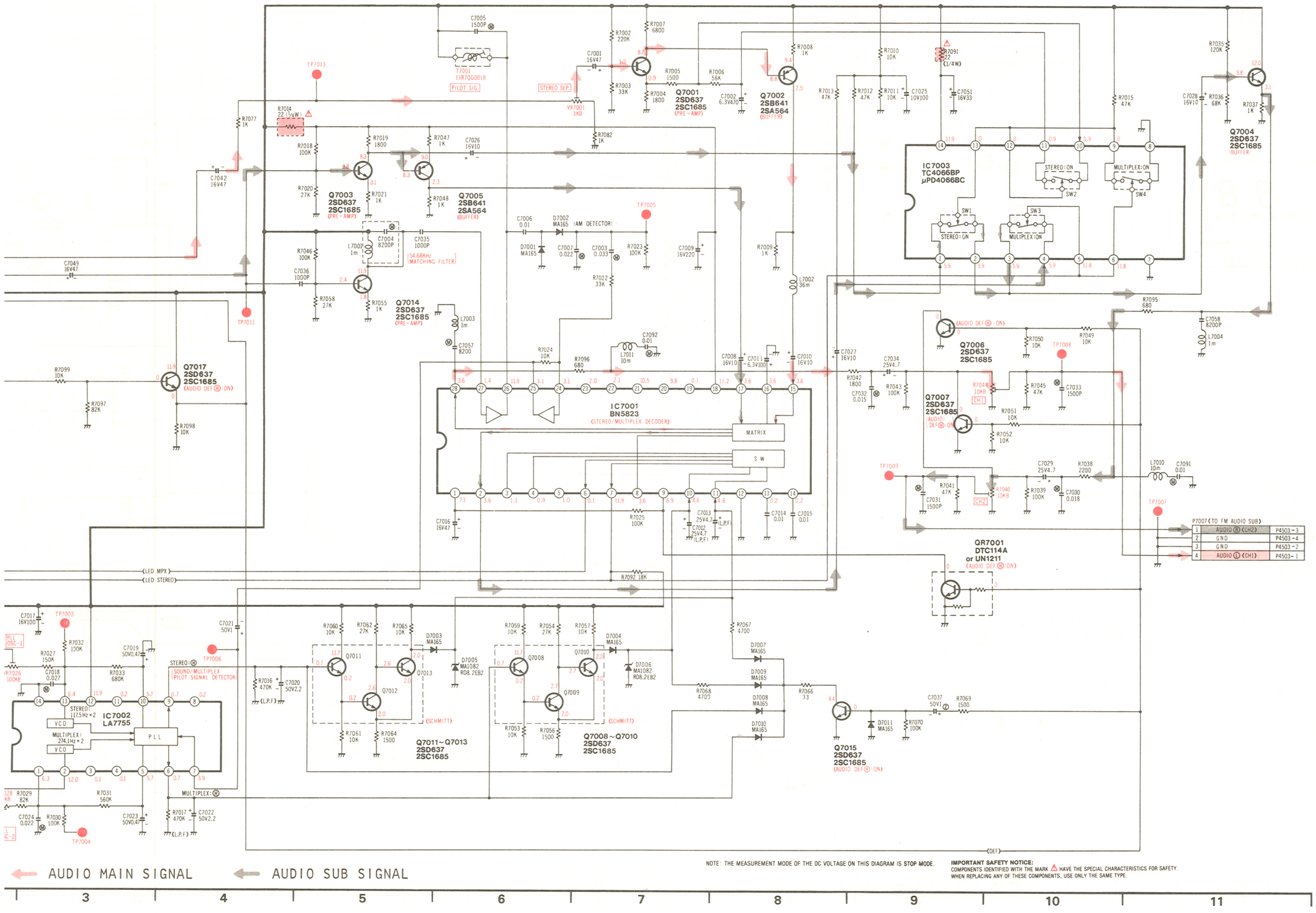


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONL

Back Page:
TIMER & TIMER OPERATION Section

C DIAGRAM



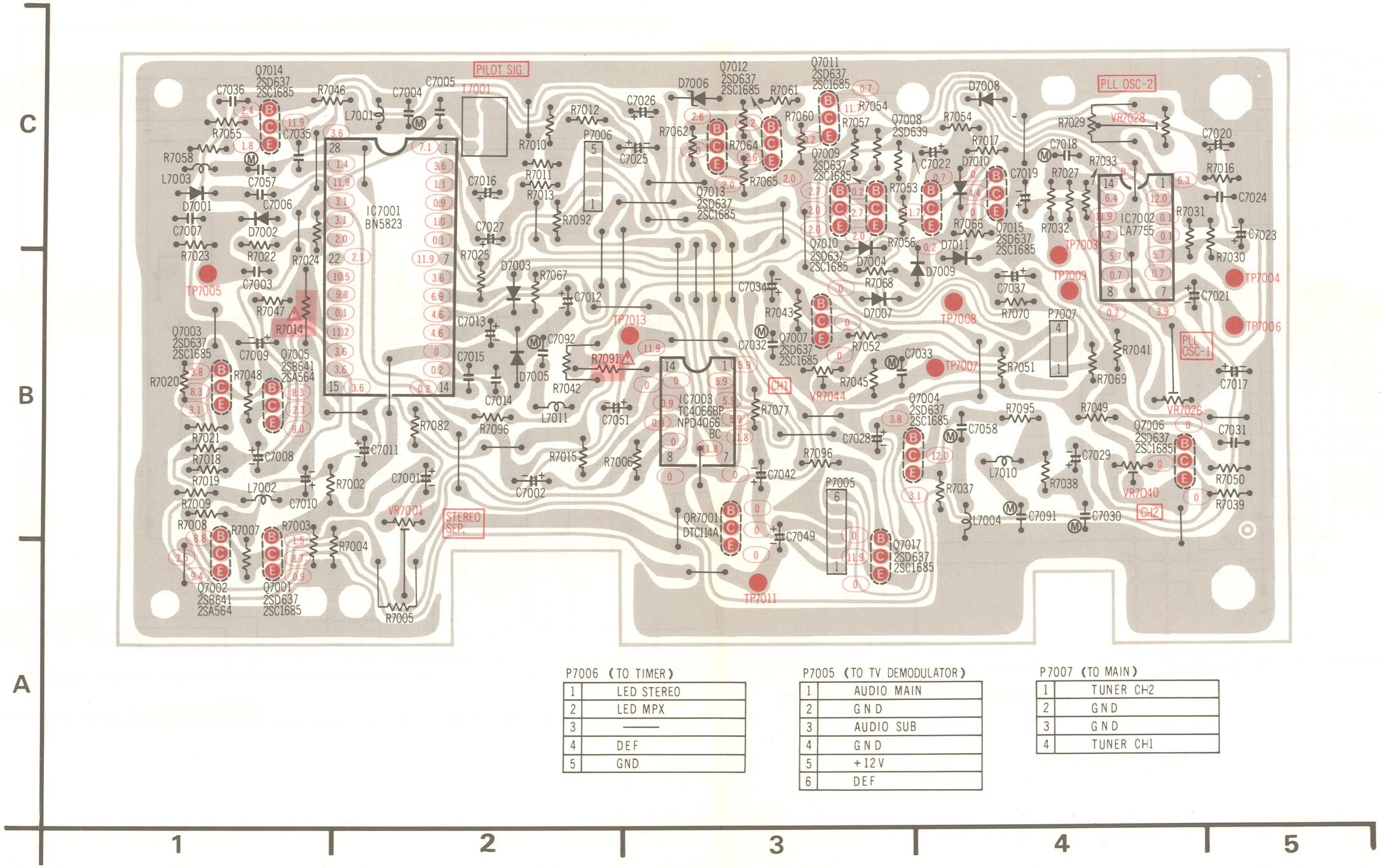
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS **STOP MODE**.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

DECORDER SCHEMATIC	
Transistor	
Q7001	F-7
Q7002	F-8
Q7003	E-5
Q7004	F-11
Q7005	E-6
Q7006	D-9
Q7007	D-9
Q7008	B-6
Q7009	B-7
Q7010	B-7
Q7011	B-5
Q7012	B-5
Q7013	B-5
Q7014	B-5
Q7015	B-8
Q7017	D-4
Transistor & Resistor	
QR7001	C-10
Integrated Circuit	
IC7001	D-7
IC7002	B-3
IC7003	E-9
Test Point	
TP7003	B-3
TP7004	A-3
TP7005	E-7
TP7006	B-4
TP7007	C-11
TP7008	D-10
TP7009	C-9
TP7011	D-4
TP7013	F-5
Adjustment	
VR7001	F-6
VR7026	B-2
VR7028	A-2
VR7040	C-9
VR7044	D-9
T7001	F-6
Connector	
P7005	E-1
P7006	C-1
P7007	C-11

ADDRESS INFORMATION

3-27. DECODER CIRCUIT BOARD (VEP07243A: NV-870EG/EO)



P7006 (TO TIMER)

1	LED STEREO
2	LED MPX
3	——
4	DEF
5	GND

P7005 (TO TV DEMODULATOR)

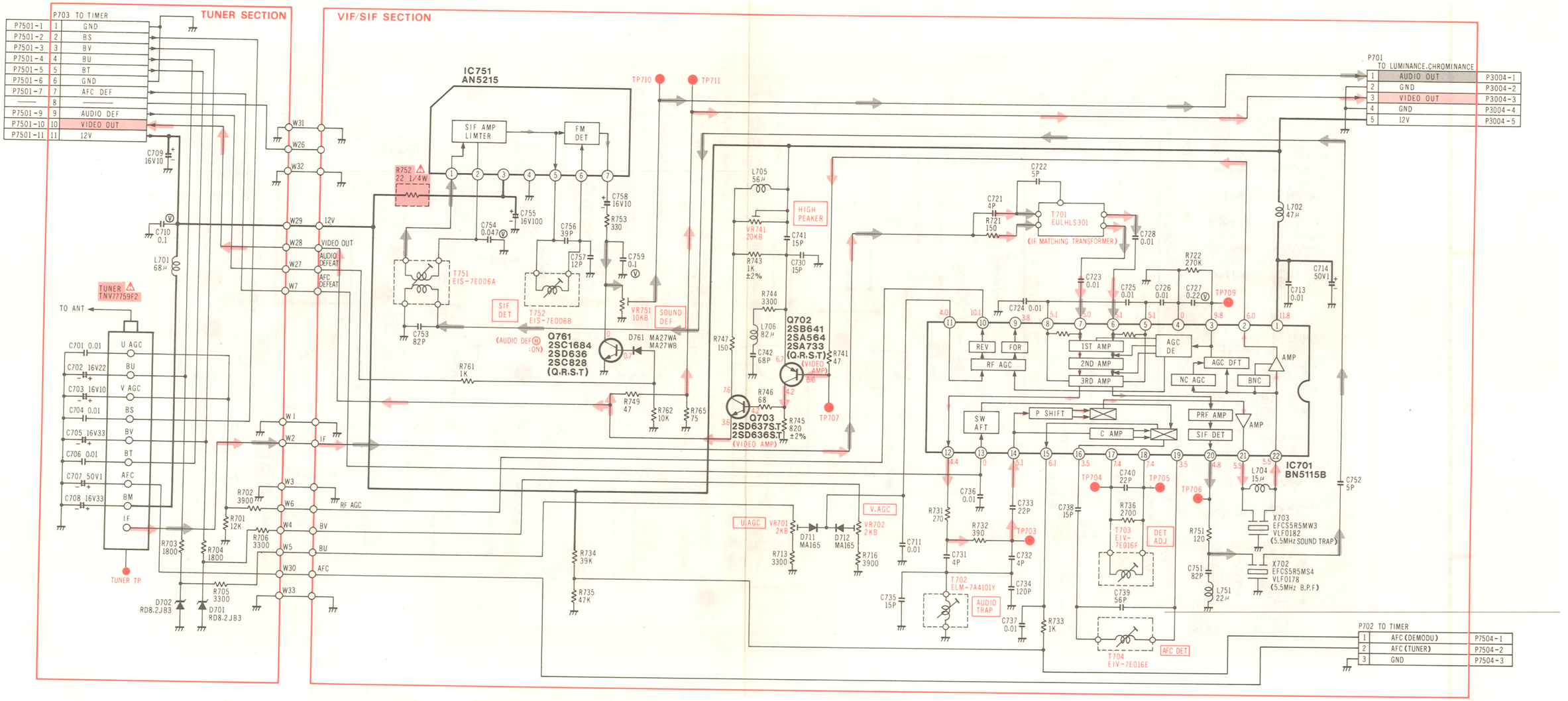
1	AUDIO MAIN
2	GND
3	AUDIO SUB
4	GND
5	+12V
6	DEF

P7007 (TO MAIN)

1	TUNER CH2
2	GND
3	GND
4	TUNER CH1

3—29

3-28. TV DEMODULATOR SCHEMATIC DIAGRAM



← VIDEO LOOP. ← AUDIO LOOP.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Back Page:
DECODER Section

3—30

3-29. TV DEMODULATOR CIRCUIT BOARD (VEB0047Z1: NV-870E)

(VIF/SIF Section)

P702

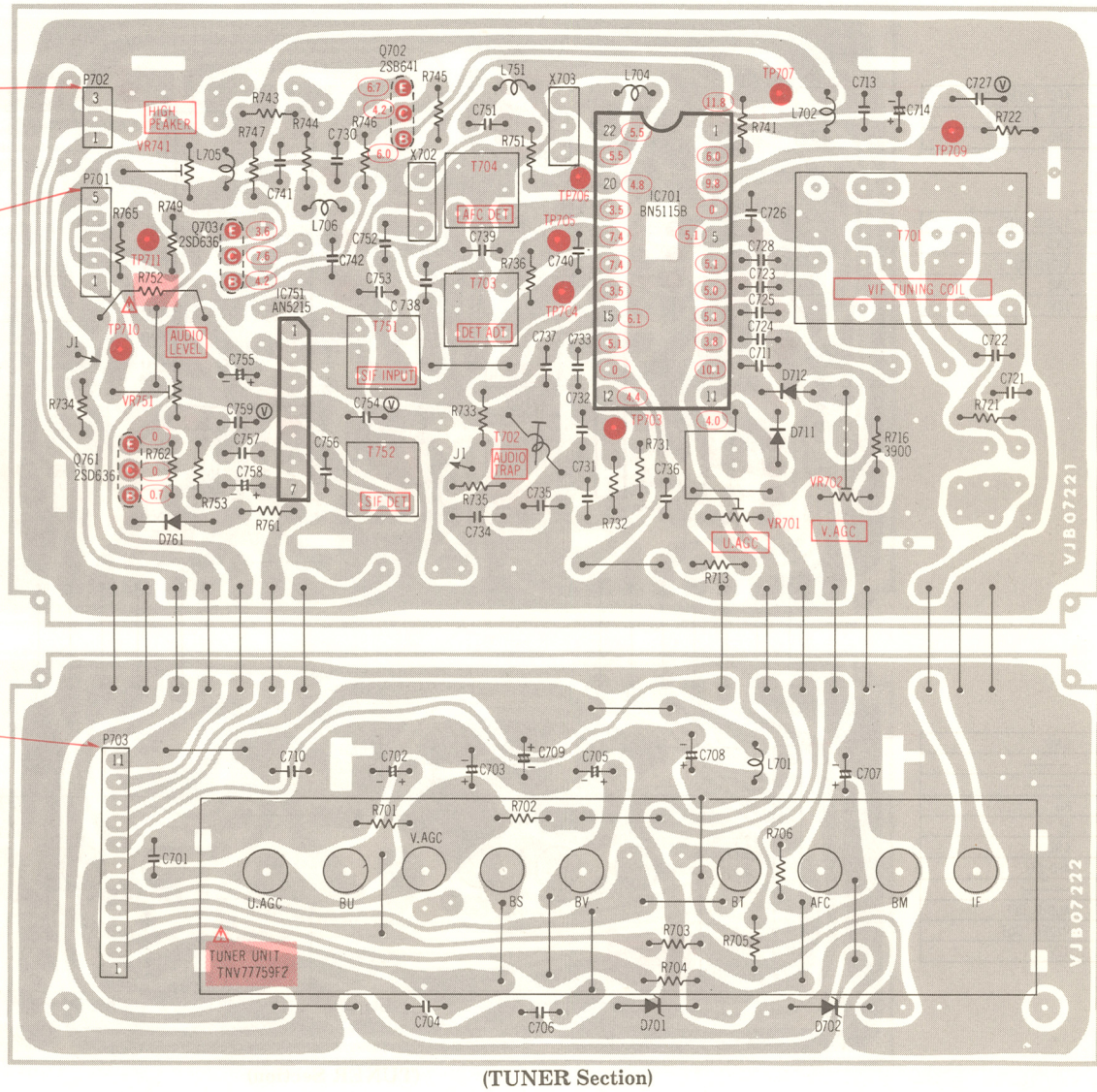
1	AFC (DEMODU)
2	AFC (TUNER)
3	GND

P701

1	AUDIO OUT
2	GND
3	VIDEO OUT
4	GND
5	+ 12V

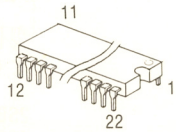
P703

1	GND
2	BS
3	BV
4	BU
5	BT
6	GND
7	AFC DEF
8	——
9	AUDIO DEF
10	VIDEO OUT
11	12V

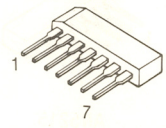


(TUNER Section)

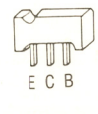
ICs & TRANSISTORs INFORMATION



BN5115B



AN5215

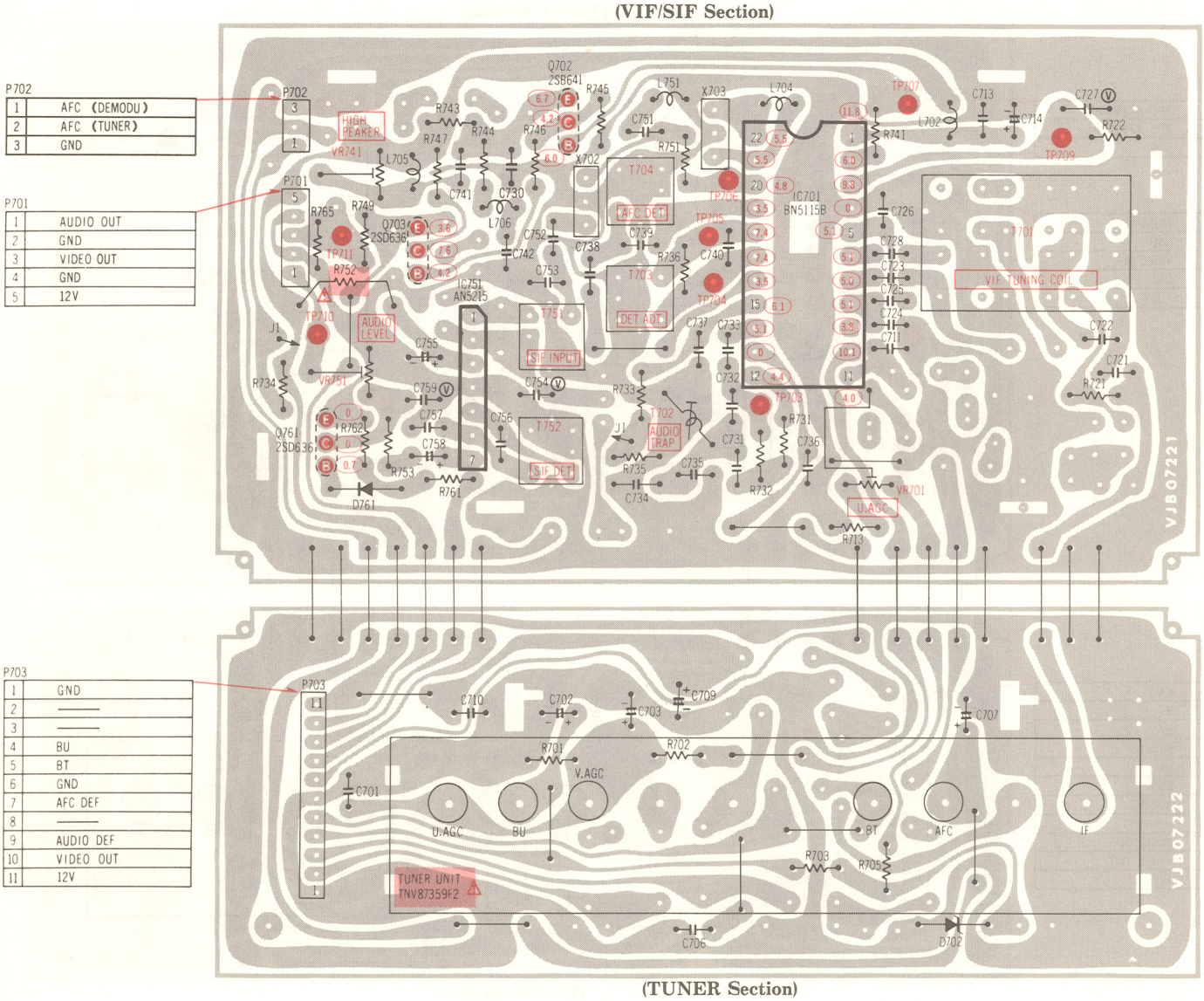


2SB641
2SD636

Next Page:
TV DEMODULATOR Section

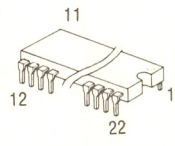
3-30. TV DEMODULATOR CIRCUIT BOARD (VEB0047Y1: NV-870B)

(VIF/SIF Section)

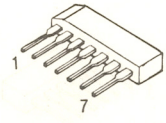


(TUNER Section)

ICs & TRANSISTORs INFORMATION



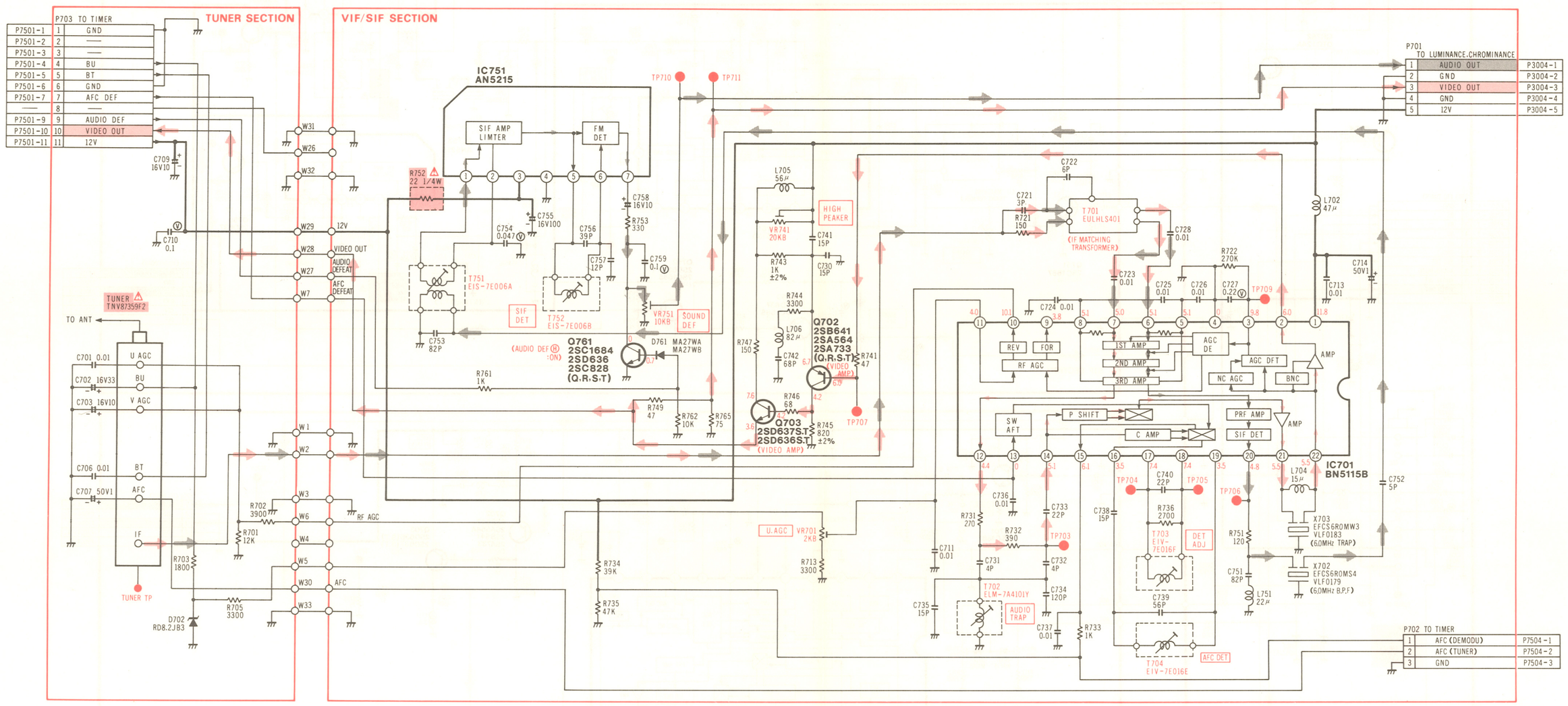
BN5115B



AN5215

2SB641
2SD636

3-31. TV DEMODULATOR SCHEMATIC DIAGRAM

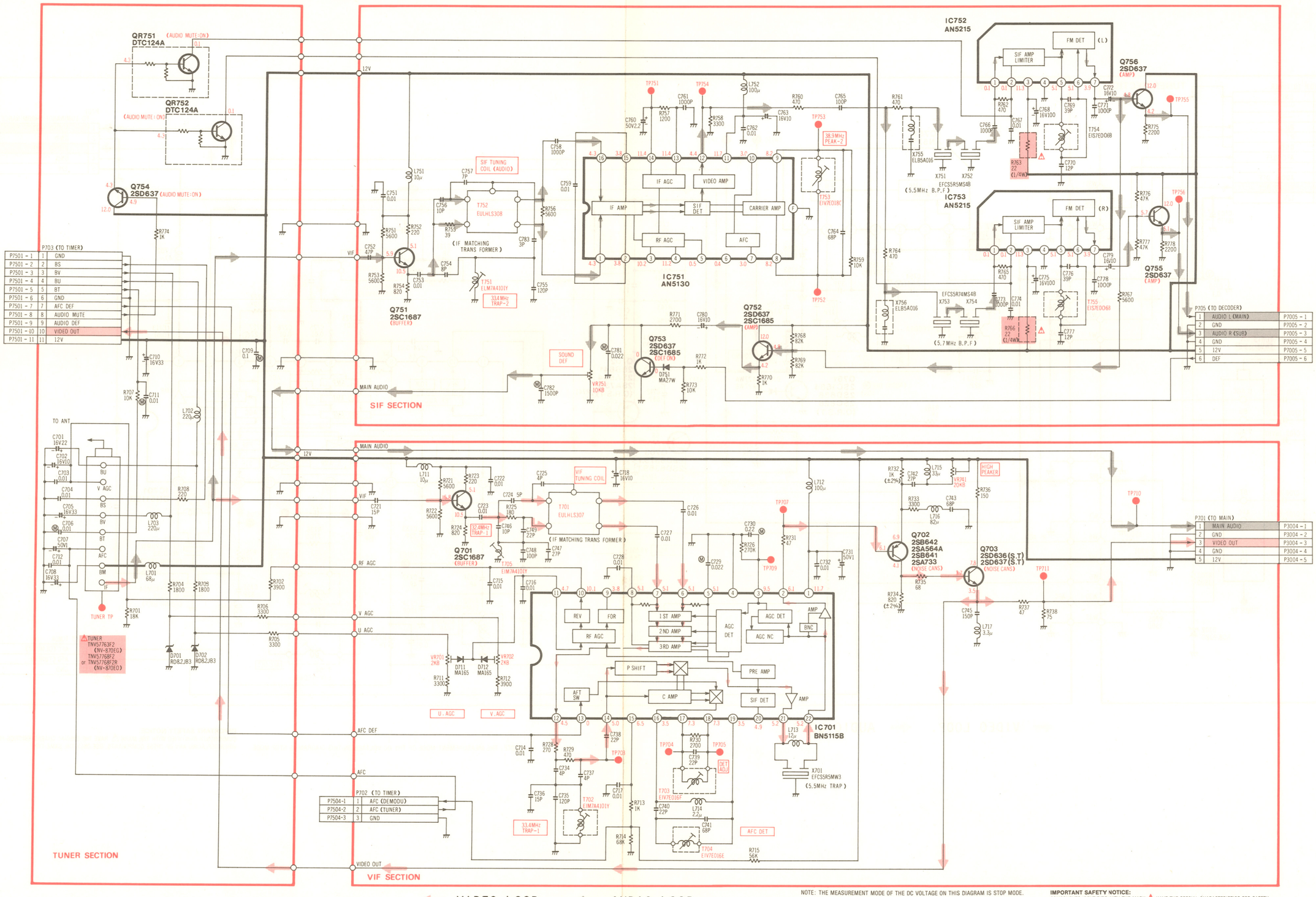


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3—33

3-32. TV DEMODULATOR SCHEMATIC DIAGRAM



VIDEO LOOP. AUDIO LOOP.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

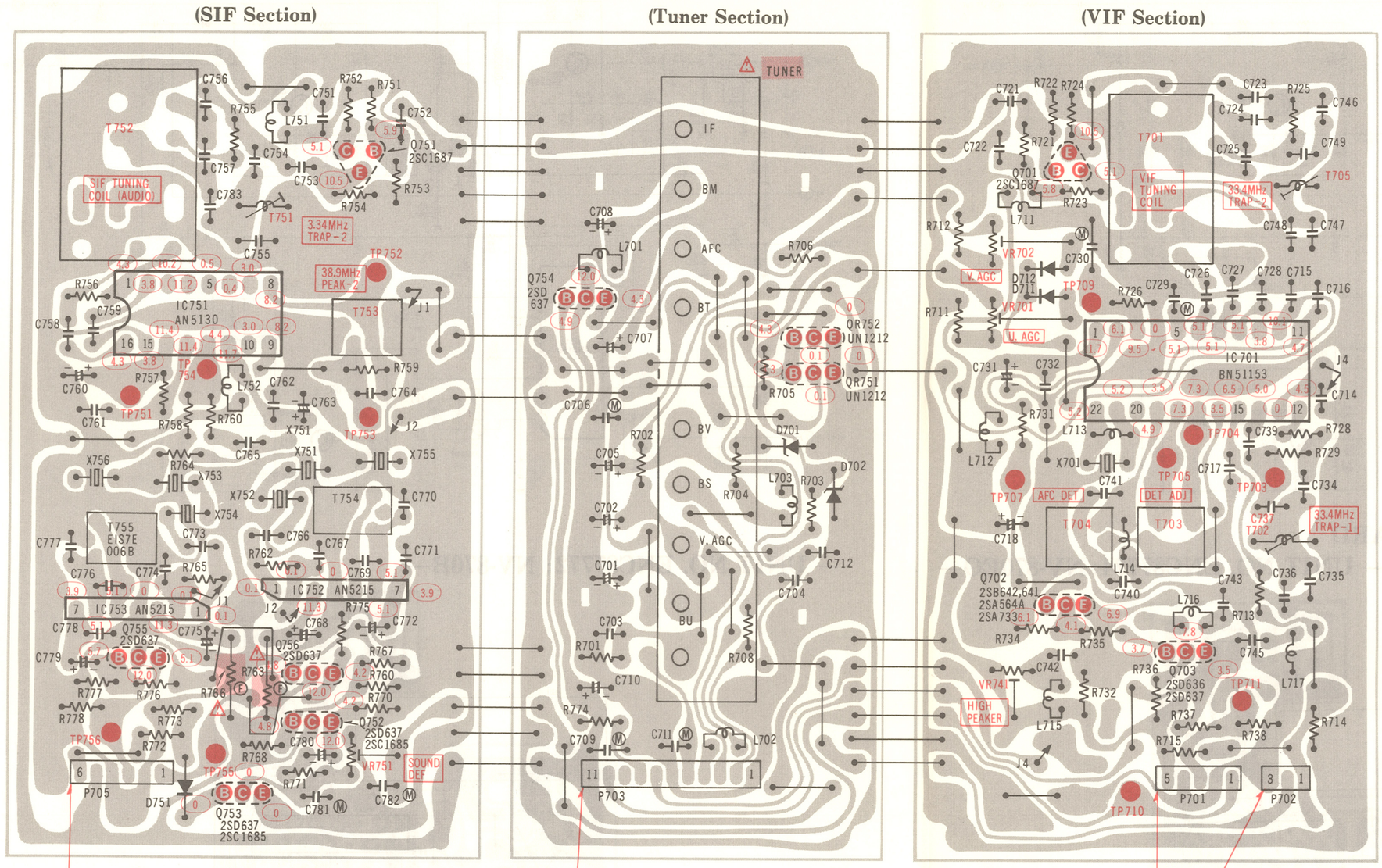
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Back Page:
TV DEMODULATOR Section

3—34

3-33. TV DEMODULATOR CIRCUIT BOARD
(VEB0067A1: NV-870EG , VEB0067B1: NV-870EO)

(SIF Section) (Tuner Section) (VIF Section)



P705

1	AUDIO (L)
2	GND
3	AUDIO (R)
4	GND
5	12V
6	DEF

P703

1	GND
2	BS
3	BV
4	BU
5	BT
6	GND
7	AFC DEF
8	AUDIO MUTE
9	AUDIO DEF
10	VIDEO OUT
11	12V

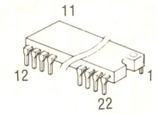
P701

1	MAIN AUDIO
2	GND
3	VIDEO OUT
4	GND
5	12V

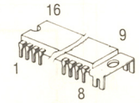
P702

1	AFC (DEMOD)
2	AFC (TUNER)
3	GND

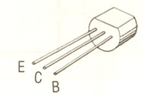
ICs & TRANSISTORs INFORMATION



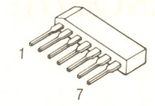
BN5115B



AN5130

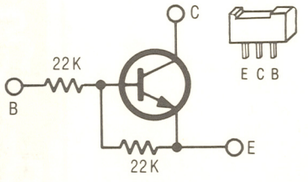


2SD637
2SC1687



AN5215

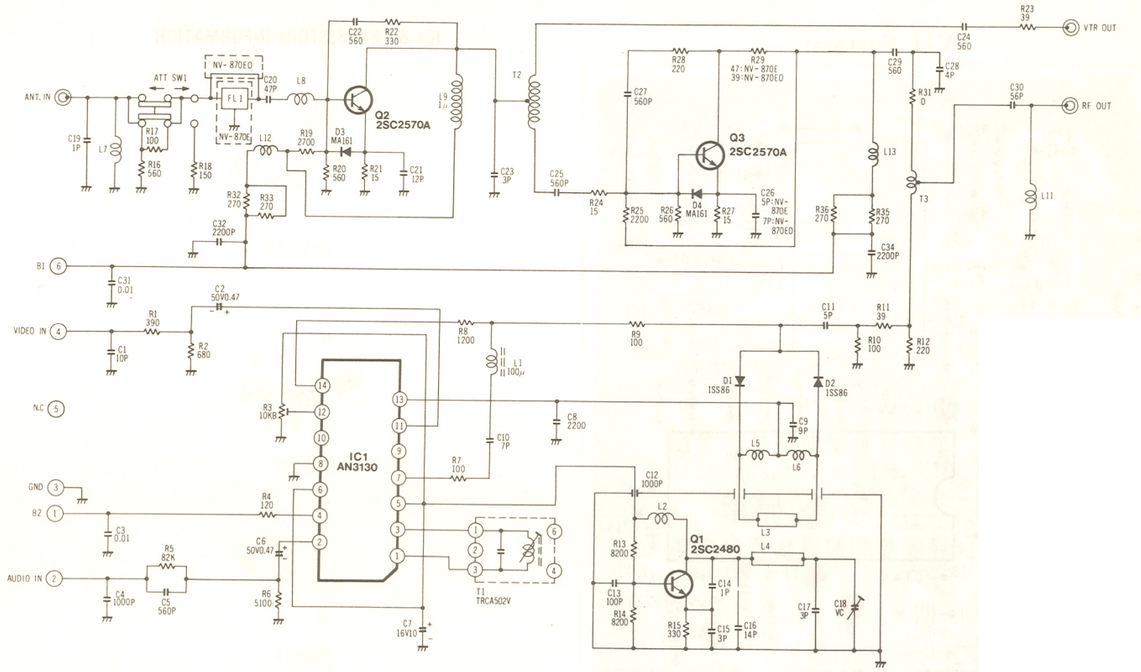
2SD636
2SB642



UN1212

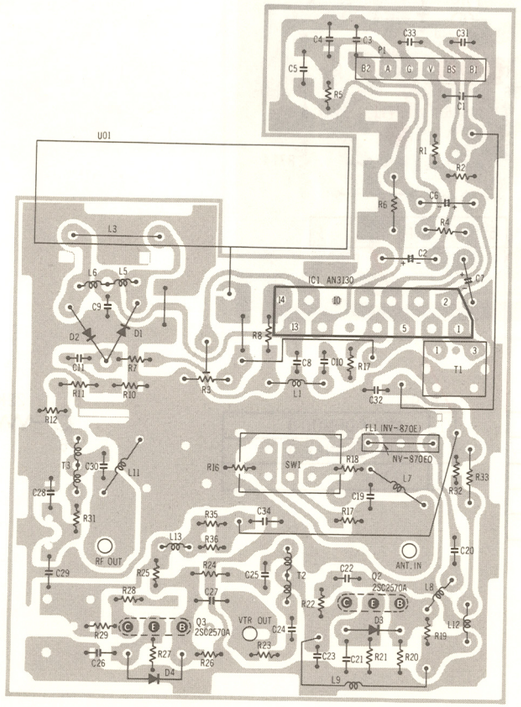
3-34. RF CONVERTER SCHEMATIC DIAGRAM

— UNIT NO. ENC87771: NV-870E— — UNIT NO. ENC87774: NV-870EO—



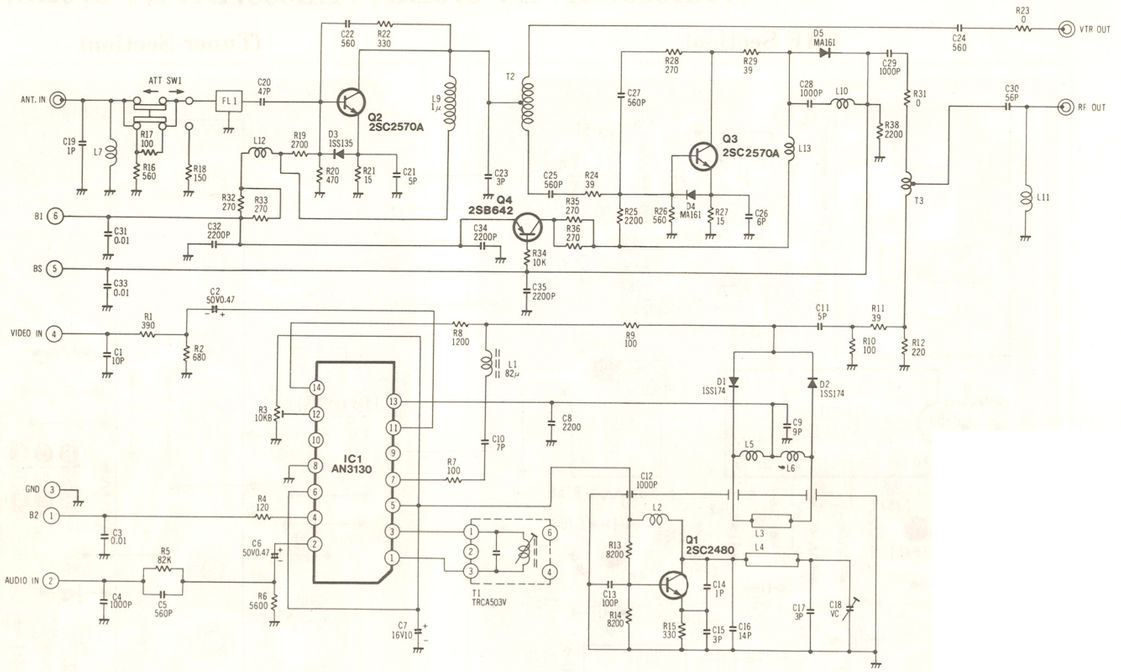
3-35. RF CONVERTER CIRCUIT BOARD

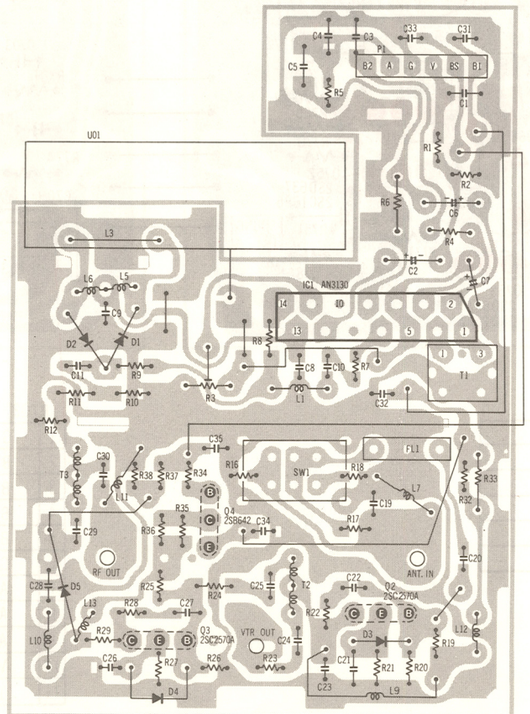
— UNIT NO. ENC87771: NV-870E— — UNIT NO. ENC87774: NV-870EO—



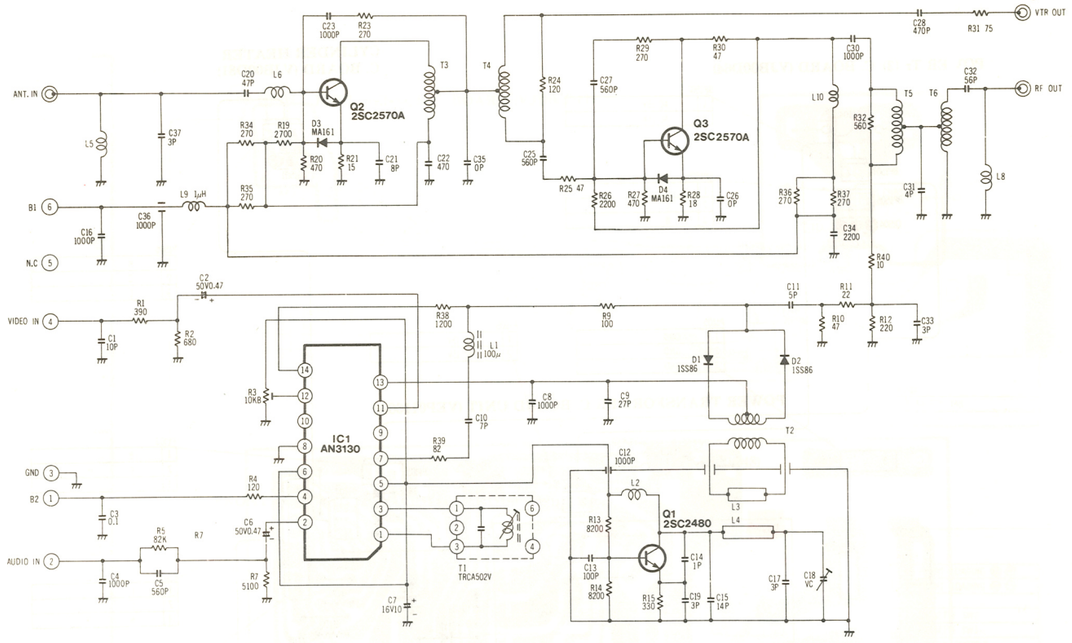
Back Page:
TV DEMODULATOR Section

— UNIT NO. ENC87772: NV-870B—

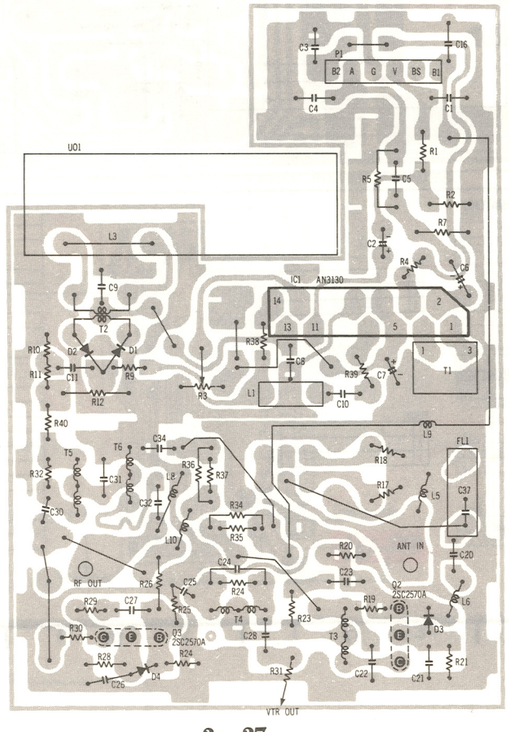




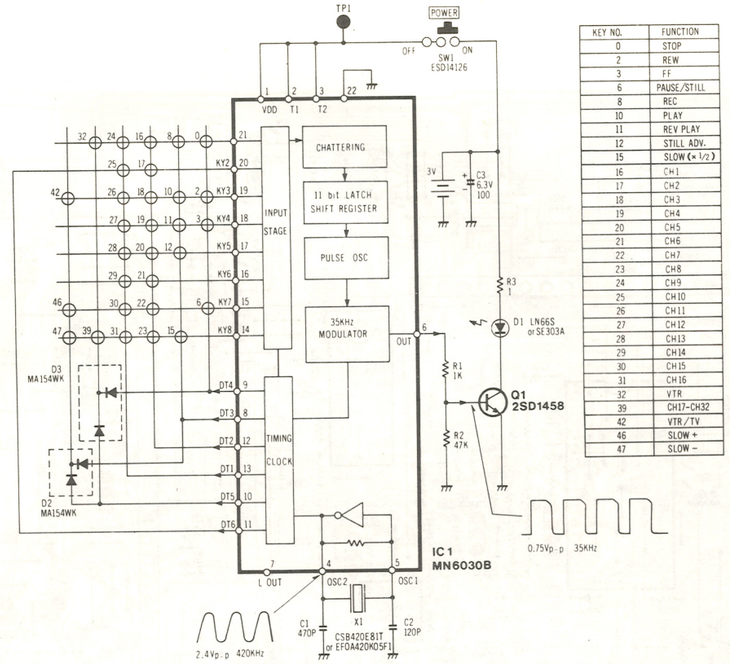
— UNIT NO. ENC87776: NV-870EG—



— UNIT NO. ENC87776: NV-870EG—

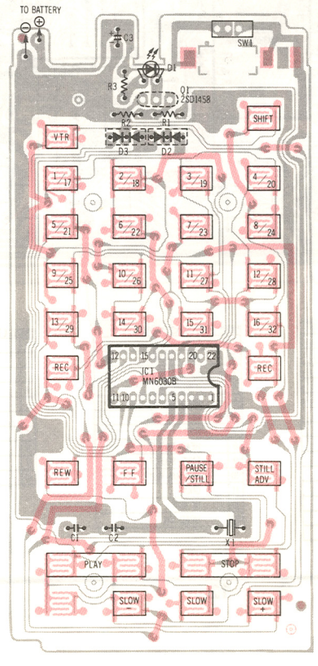


3-36. REMOTE CONTROL SCHEMATIC DIAGRAM



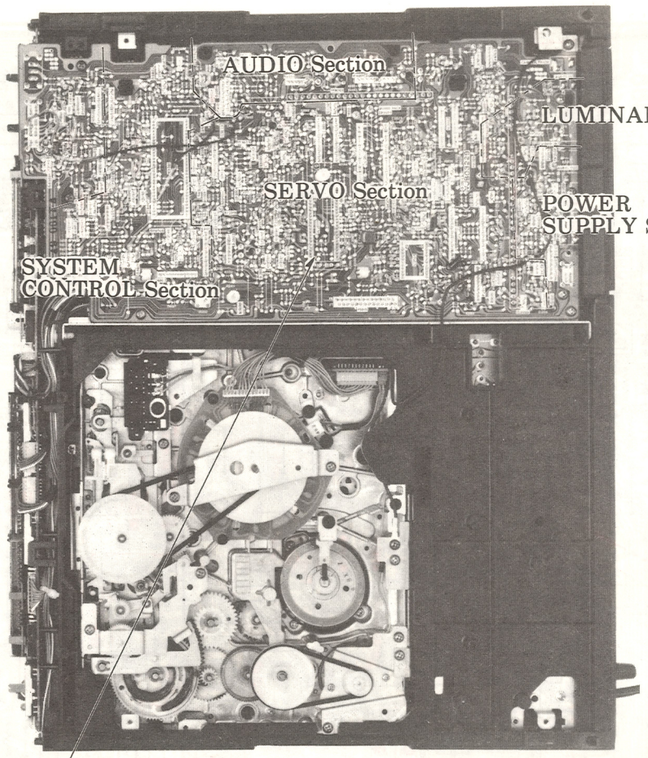
KEY NO.	FUNCTION
0	STOP
2	REW
3	FF
6	PAUSE/STILL
8	REC
10	PLAY
11	REV PLAY
12	STILL ADV.
15	SLOW (÷ 1/2)
16	CH1
17	CH2
18	CH3
19	CH4
20	CH5
21	CH6
22	CH7
23	CH8
24	CH9
25	CH10
26	CH11
27	CH12
28	CH13
29	CH14
30	CH15
31	CH16
32	VTR
39	CH17–CH32
42	VTR/TV
46	SLOW +
47	SLOW −

REMOTE CONTROL CIRCUIT BOARD (VEP22026A)



3-37. CIRCUIT BOARD LAYOUT

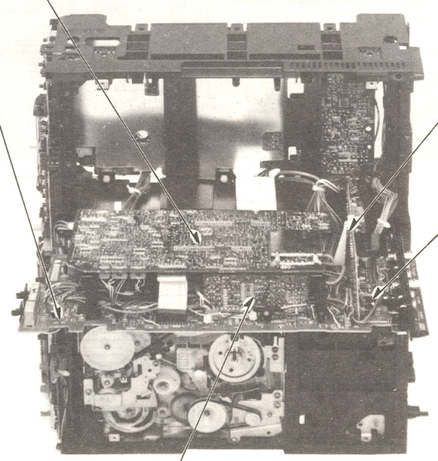
BOTTOM VIEW



LUMINANCE & CHROMINANCE PACK CIRCUIT BOARD

FM AUDIO CIRCUIT BOARD

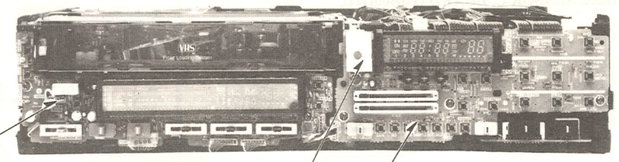
MAIN CIRCUIT BOARD



SECAM PACK CIRCUIT BOARD

AUDIO PACK CIRCUIT BOARD

FRONT VIEW



OPERATION CIRCUIT BOARD

TIMER OPERATION CIRCUIT BOARD

IR RECEIVER CIRCUIT BOARD

TOP VIEW

POWER TRANSFORMER CIRCUIT BOARD

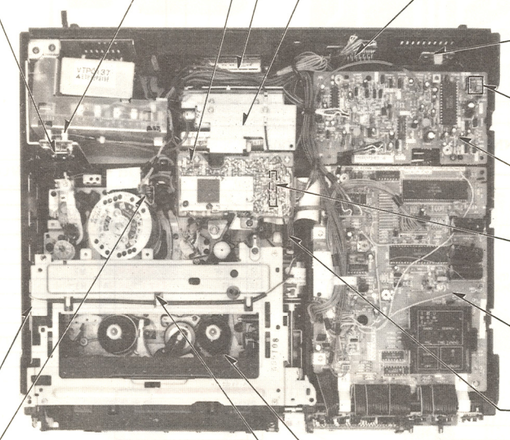
POWER Tr. (3) CIRCUIT BOARD

HEAD AMP CIRCUIT BOARD

RF CONVERTER & ANTENNA BOOSTER UNIT

TV DEMODULATOR CIRCUIT BOARD UNIT

21 PIN CONNECTOR CIRCUIT BOARD



POWER Tr. (2) CIRCUIT BOARD

POWER Tr. (1) CIRCUIT BOARD

DECODER CIRCUIT BOARD

MECHANISM CONNECTION CIRCUIT BOARD

TIMER CIRCUIT BOARD

FRONT LOADING CIRCUIT BOARD

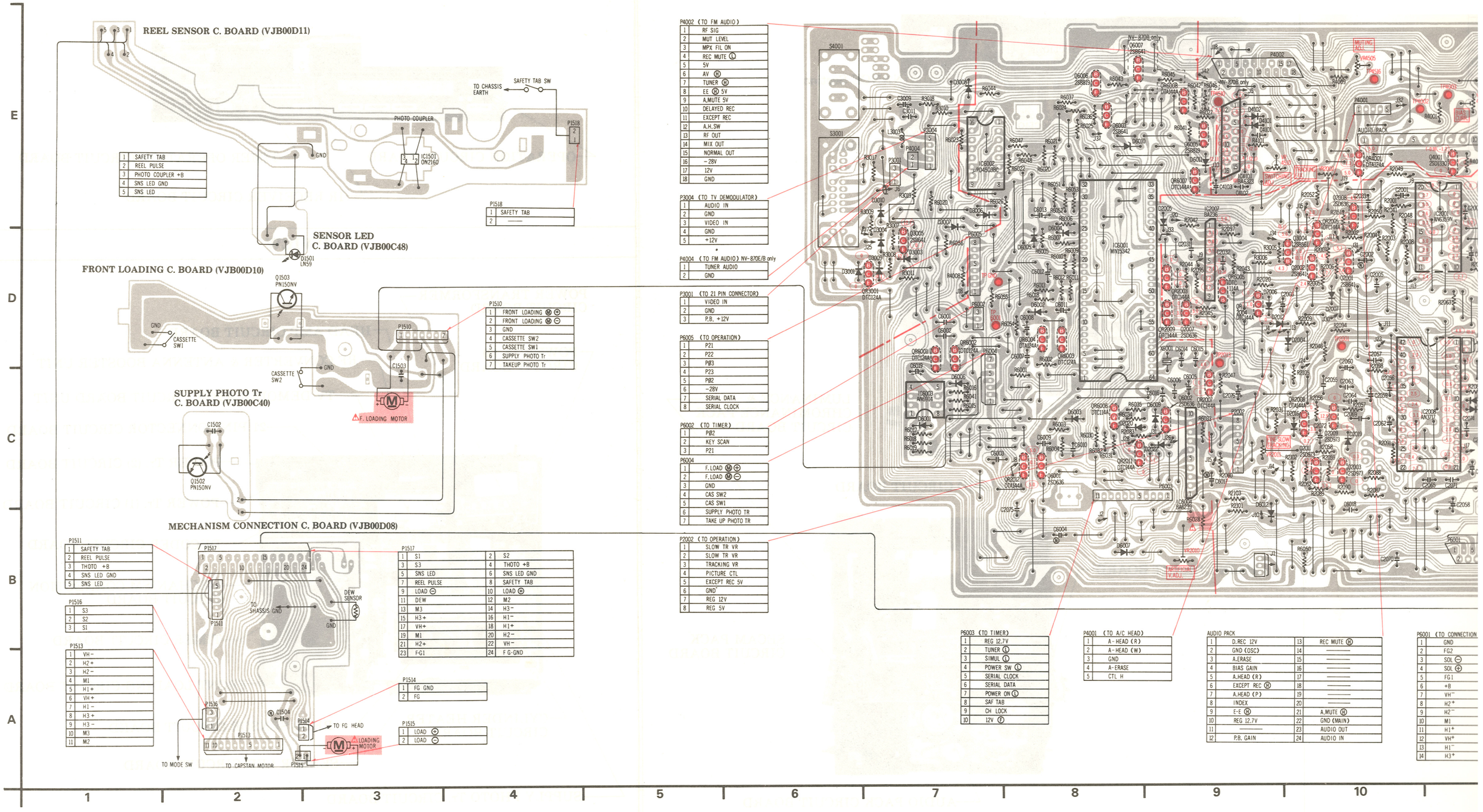
CYLINDER HEATER CIRCUIT BOARD

REEL SENSOR CIRCUIT BOARD

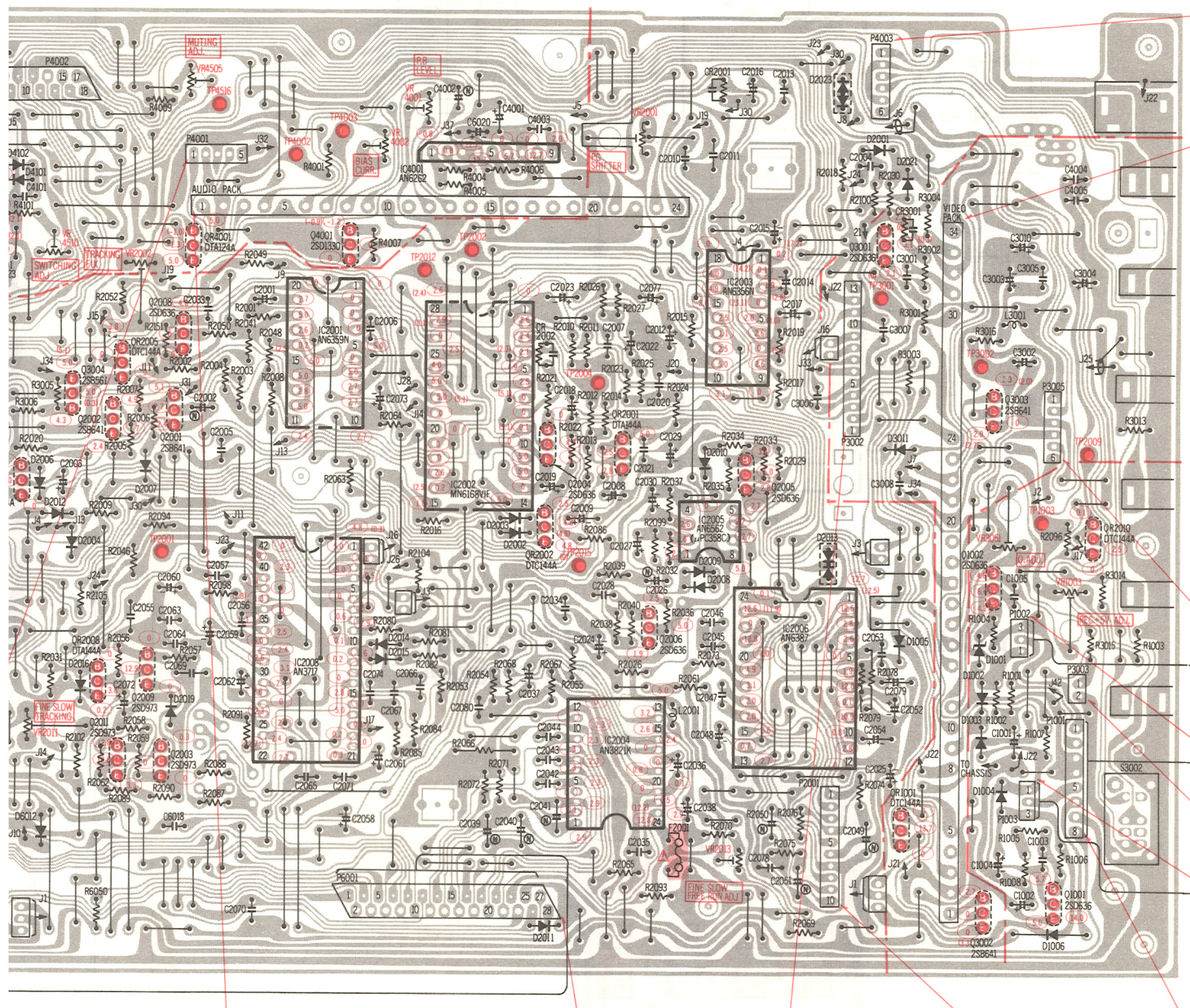
SENSOR LED CIRCUIT BOARD

SUPPLY PHOTO Tr. CIRCUIT BOARD

3-38. MAIN CIRCUIT BOARD (VEP03229A: NV-870E/EO, VEP03229B: NV-870B, VEP03229C: NV-870EG)



Back Page:
RF CONVERTER &
CIRCUIT BOARD LAYOUT Section



P4003 (TO FM AUDIO)	
1	LINE CH2
2	GND
3	LINE CH1
4	LINE OUT CH2
5	GND
6	LINE OUT CH1

VIDEO PACK	
1	REC CHROMA
2	GND
3	VSS
4	———
5	REC.Y
6	———
7	———
8	RF IN
9	ARTIFICIAL V-SYNC
10	E-E Ⓗ
11	Q.VR
12	D.D.C.
13	PICTURE CTL
14	VIDEO OUT
15	CONVERTER OUT
16	———
17	SEARCH Ⓛ
18	———
19	———
20	REG 5V
21	EXCEPT REC Ⓗ
22	TEST Ⓗ
23	COLOUR Ⓗ
24	ROTARY SW
25	———
26	———
27	———
28	———
29	———
30	4.43MHz
31	P.B CHROMA IN
32	GND
33	REC Ⓗ
34	VIDEO IN

P3005 (TO RF CONV.)	
1	12V (SWD)
2	AUDIO
3	GND
4	VIDEO
5	P.B. Ⓗ / VTR 12V
6	REG 12V

P1002	
1	B
2	C
3	E

P3003 (TO 21 PIN CONNECTOR)	
1	VIDEO OUT
2	GND

P1003	
1	B
2	C
3	E

V	13	REC MUTE Ⓗ	
C)	14	———	
	15	———	
N	16	———	
R)	17	———	
REC Ⓡ	18	———	
P)	19	———	
	20	———	
	21	A.MUTE Ⓗ	
V	22	GND (MAIN)	
—	23	AUDIO OUT	
Y	24	AUDIO IN	

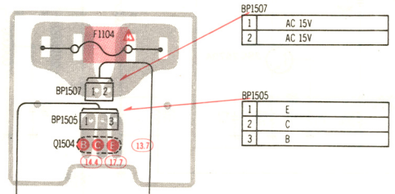
P5001 (TO CONNECTION)			
1	GND	15	H3⁻
2	FG2	16	H3
3	SOL ⊖	17	M2
4	SOL ⊕	18	DEW
5	FG1	19	LOAD ⊖
6	+B	20	LOAD ⊕
7	VH⁻	21	SAFETY TAB
8	H2⁺	22	REEL PULSE
9	H2⁻	23	SNS LED GND
10	M1	24	SES LED ⊕
11	H1⁺	25	PHOTO CP +B
12	VH⁺	26	S3
13	H1⁻	27	S2
14	H3⁺	28	S1

P3002 (TO HEAD AMP)	
1	REC Y
2	REC CHROMA
3	EXCEPT REC 5V
4	A.MUTE Ⓛ
5	DELAYED REC 12V
6	REVERSE Ⓡ
7	GND
8	HEAD AMP SW
9	ENVE SELECT
10	CHROMA OUT
11	GND
12	RF OUT
13	HEAD SW

P2001 (TO CYLINDER)	
1	M2
2	VH⁺
3	HES
4	M3
5	HEM
6	GND
7	M COM
8	HEM
9	HES
10	M1

P1001	
1	UNREG +10V
2	UNREG +45V
3	GND
4	GND
5	UNREG +17V
6	REG 6V
7	MOTOR REG
8	MOTOR GND

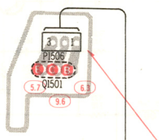
POWER Tr. (3) C. BOARD (VJB00D64)



BP1507	
1	AC 15V
2	AC 15V

BP1505	
1	E
2	C
3	B

CYLINDER HEATER C. BOARD (VJB00D81)

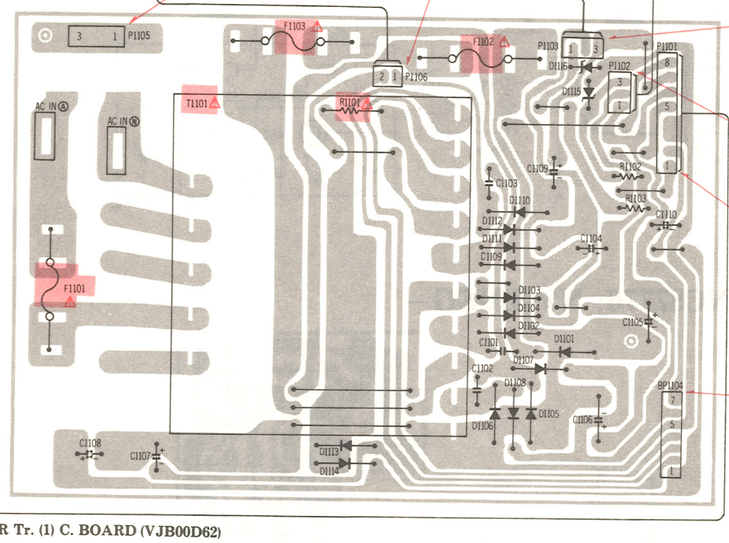


P1505	
1	B
2	C
3	E

P1105	
1	GND
2	GND
3	GND

P1106	
1	AC 15V
2	AC 15V

POWER TRANSFORMER C. BOARD UNIT (VEP01166A)



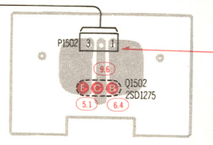
P1103	
1	B
2	C
3	E

P1102	
1	E
2	C
3	B

P1101	
1	UNREG +10V
2	45V
3	GND
4	GND
5	UNREG +17V
6	REG 6V
7	MOTOR REG
8	MOTOR GND

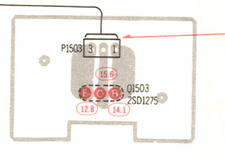
BP1104 (TO TIMER)	
1	+45V
2	−45V
3	AC 6V
4	AC 6V
5	GND
6	17V
7	REG 6V

POWER Tr. (1) C. BOARD (VJB00D62)



P1502	
1	E
2	C
3	B

POWER Tr. (2) C. BOARD (VJB00D63)



P1503	
1	E
2	C
3	B

3-39. INTERCONNECTION SCHEMATIC DIAGRAM

POWER SUPPLY CIRCUIT BOARD	
Transistor	
Q1001	B-14
Q1002	D-13
Q1501	E-19
Q1502	B-16
Q1503	A-16
Q1504	E-16
Transistor & Resistor	
QR1001	C-13
Test Point	
TP1003	D-14
Adjustment	
VR1003	C-14

ADDRESS INFORMATION

LUMINANCE CIRCUIT BOARD	
Transistor	
Q3001	E-13
Q3002	B-13
Q3003	D-14
Q3004	D-10
Q3005	D-7
Transistor & Resistor	
QR3001	D-7
Test Point	
TP3001	E-13
TP3002	D-13
Adjustment	
VR3051	D-13

ADDRESS INFORMATION

SERVO CIRCUIT BOARD	
Transistor	
Q2001	D-10
Q2002	D-10
Q2003	C-10
Q2004	D-12
Q2005	D-13
Q2006	C-12
Q2007	D-9
Q2008	E-10
Q2009	C-10
Q2011	C-10
Transistor & Resistor	
QR2001	D-12
QR2002	D-12
QR2003	D-9
QR2004	D-9
QR2005	D-10
QR2007	C-9
QR2008	C-10
QR2009	D-9
QR2010	D-14
QR2011	C-8
QR2012	C-8
Integrated Circuit	
IC2001	E-11
IC2002	D-11
IC2003	E-12
IC2004	C-12
IC2005	D-12
IC2006	C-13
IC2007	E-9
IC2008	C-11
Test Point	
TP2001	D-10
TP2002	E-11
TP2004	D-12
TP2009	D-14
TP2012	E-11
TP2013	D-9
TP2015	D-12
Adjustment	
VR2001	E-12
VR2002	E-10
VR2010	B-9
VR2011	C-9
VR2013	B-12

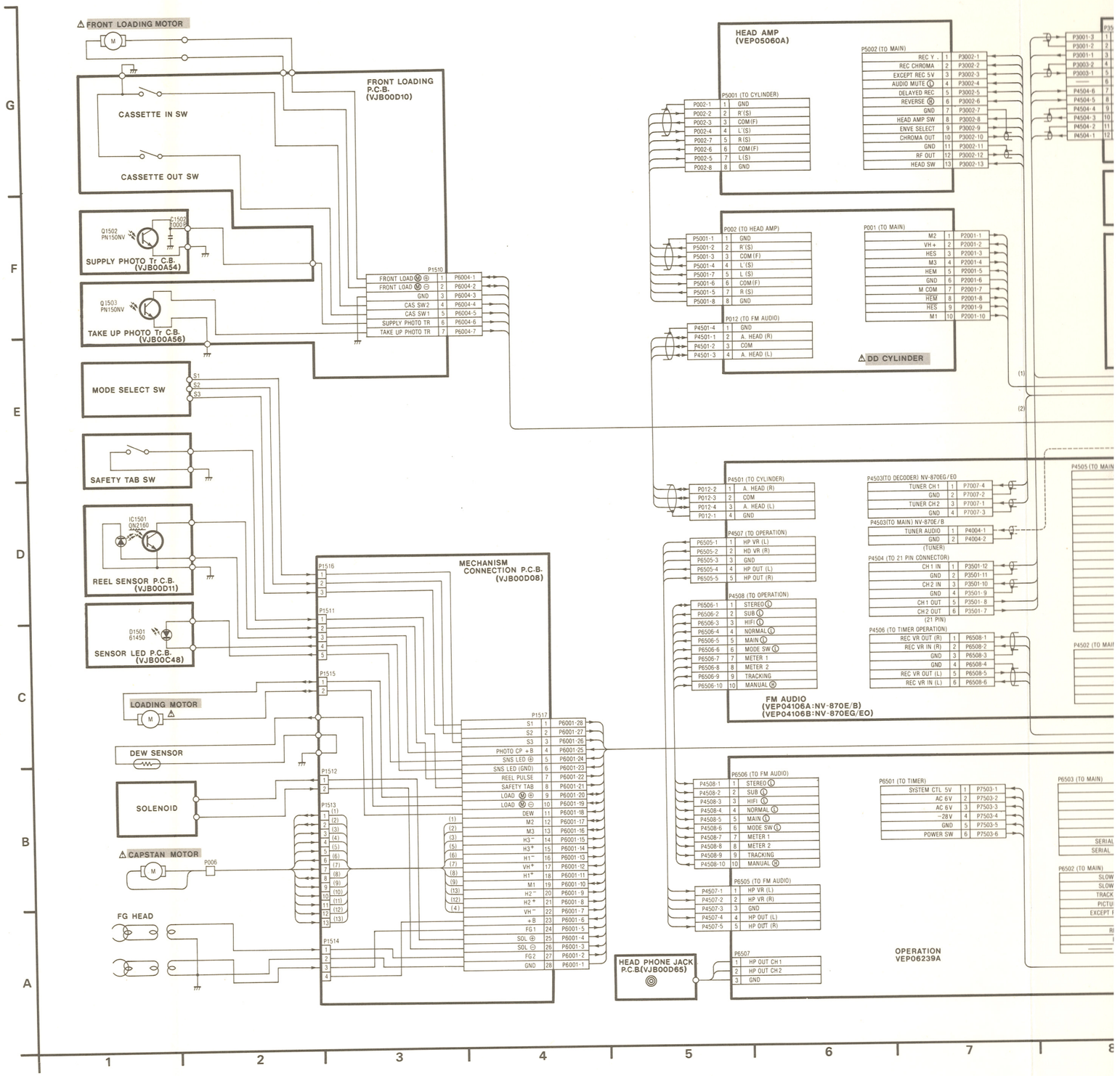
ADDRESS INFORMATION

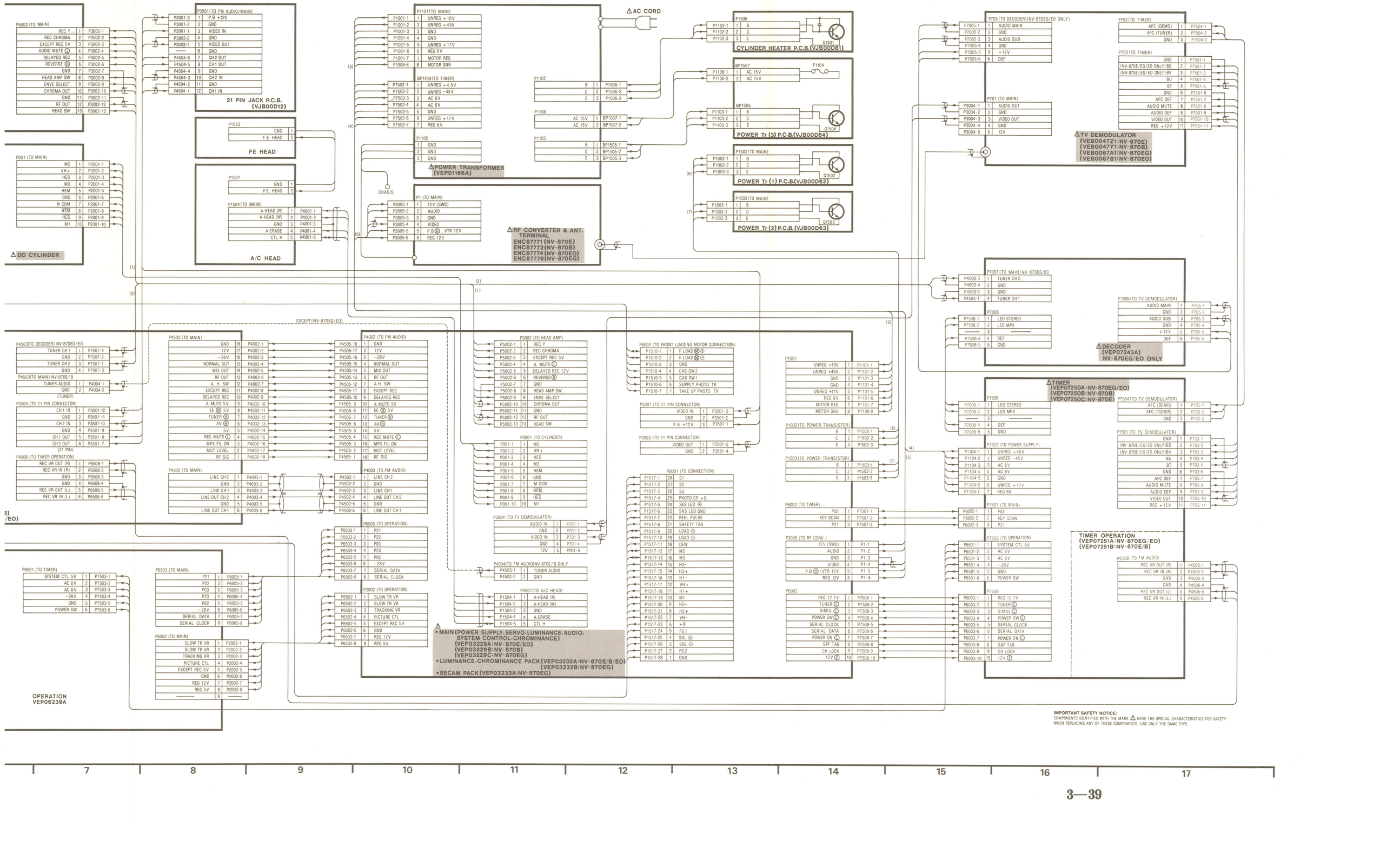
AUDIO CIRCUIT BOARD	
Transistor	
Q4001	E-11
Transistor & Resistor	
QR4001	E-10
Integrated Circuit	
IC4001	E-11
IC4101	E-9
Test Point	
TP4002	E-10
TP4003	E-11
TP4510	E-9
TP4516	E-10
Adjustment	
VR4001	E-11
VR4002	E-11
VR4505	E-10
VR4510	E-9

ADDRESS INFORMATION

SYSTEM CONTROL CIRCUIT BOARD	
Transistor	
Q1502	C-2
Q1503.	D-2
Q6001	C-8
Q6002	C-9
Q6003	E-8
Q6005	E-9
Q6006	E-8
Q6007	E-8
Transistor & Resistor	
QR6001	D-7
QR6002	D-7
QR6003	D-8
QR6004	D-8
QR6005	D-9
QR6006	C-8
QR6007	E-9
QR6008	E-9
Integrated Circuit	
IC1501	E-3
IC6001	D-8
IC6002	E-7
IC6003	C-7
IC6004	C-9
Test Point	
TP6001	D-7
TP GND	D-7

ADDRESS INFORMATION





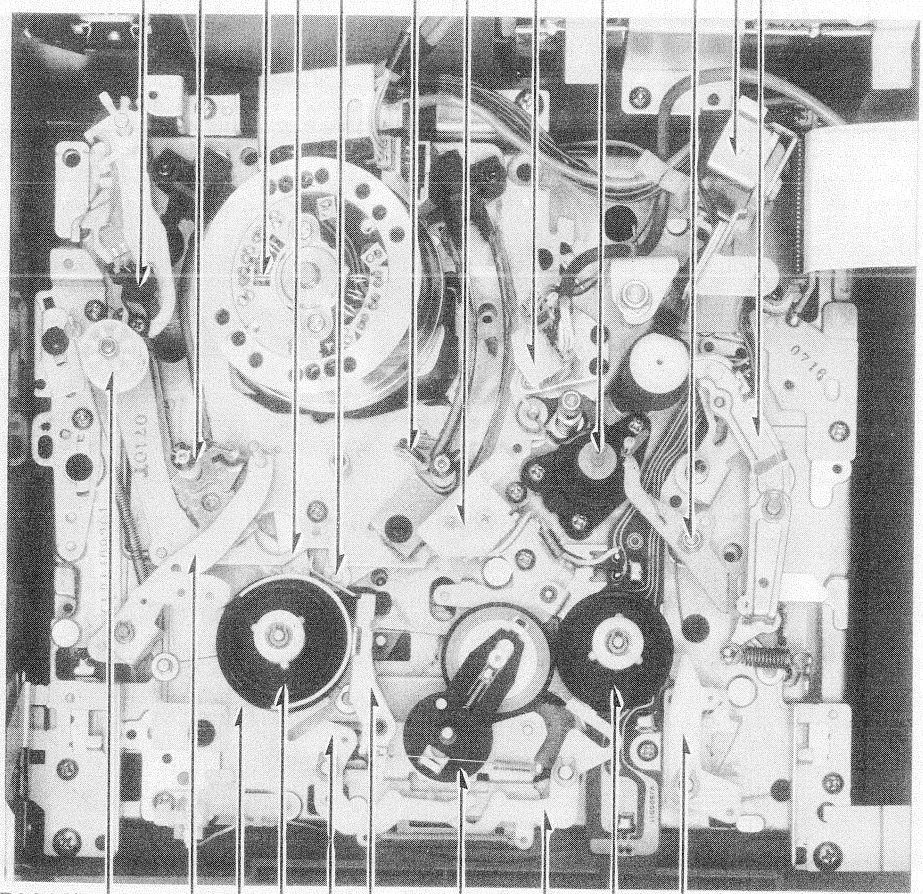
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK △ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Memo

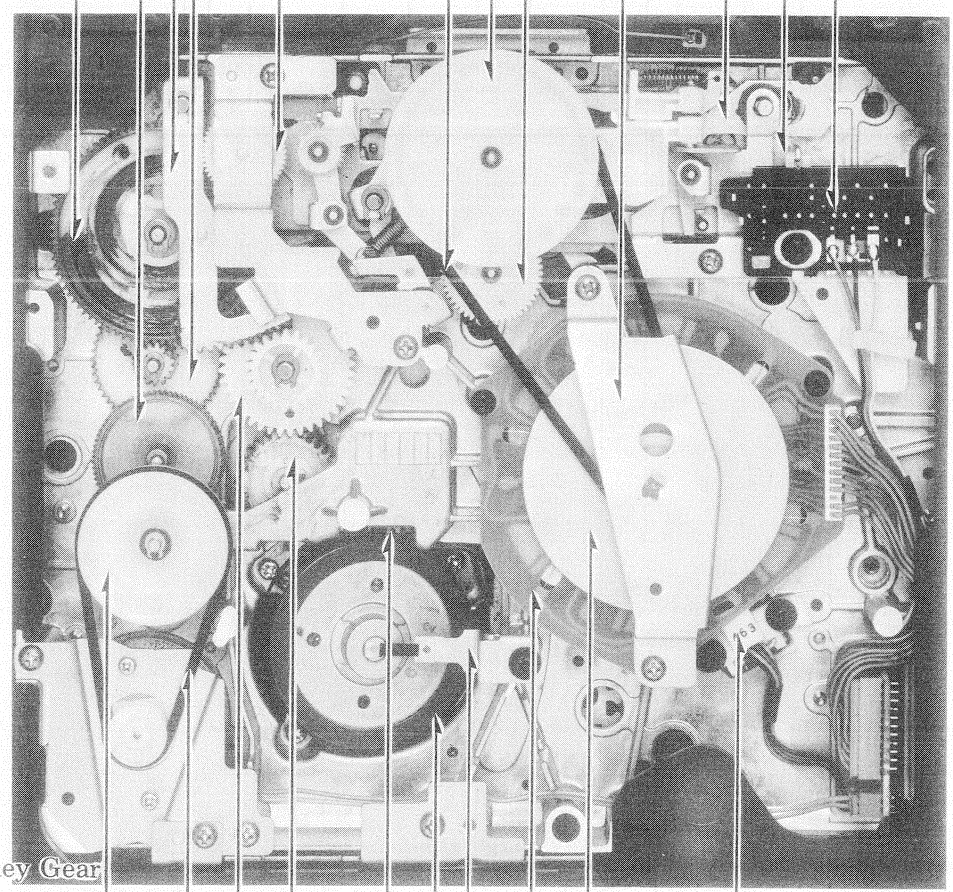
SECTION 4.
EXPLODED VIEWS AND PARTS LIST

4-1. INNER PARTS LOCATION

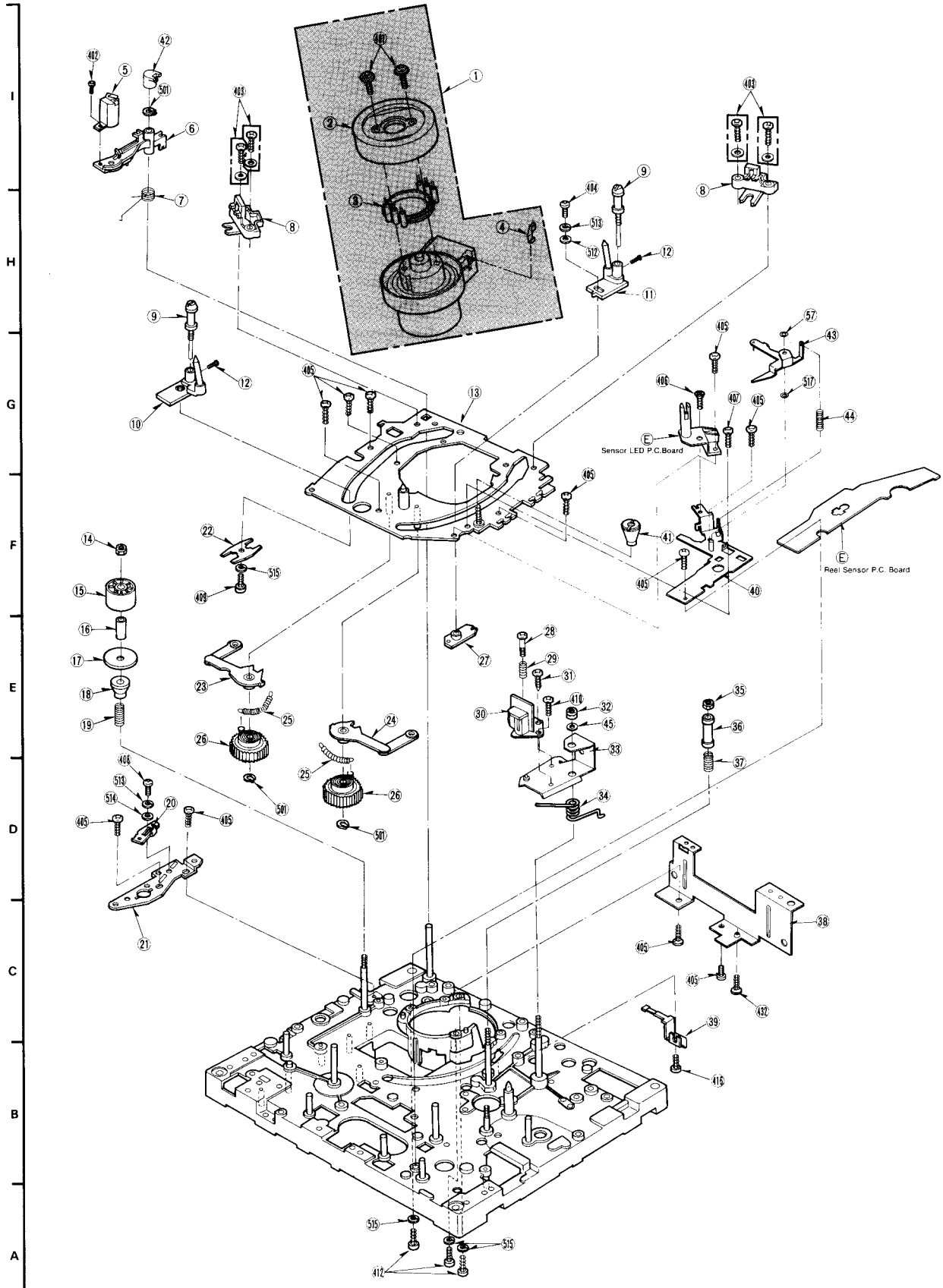
TOP VIEW



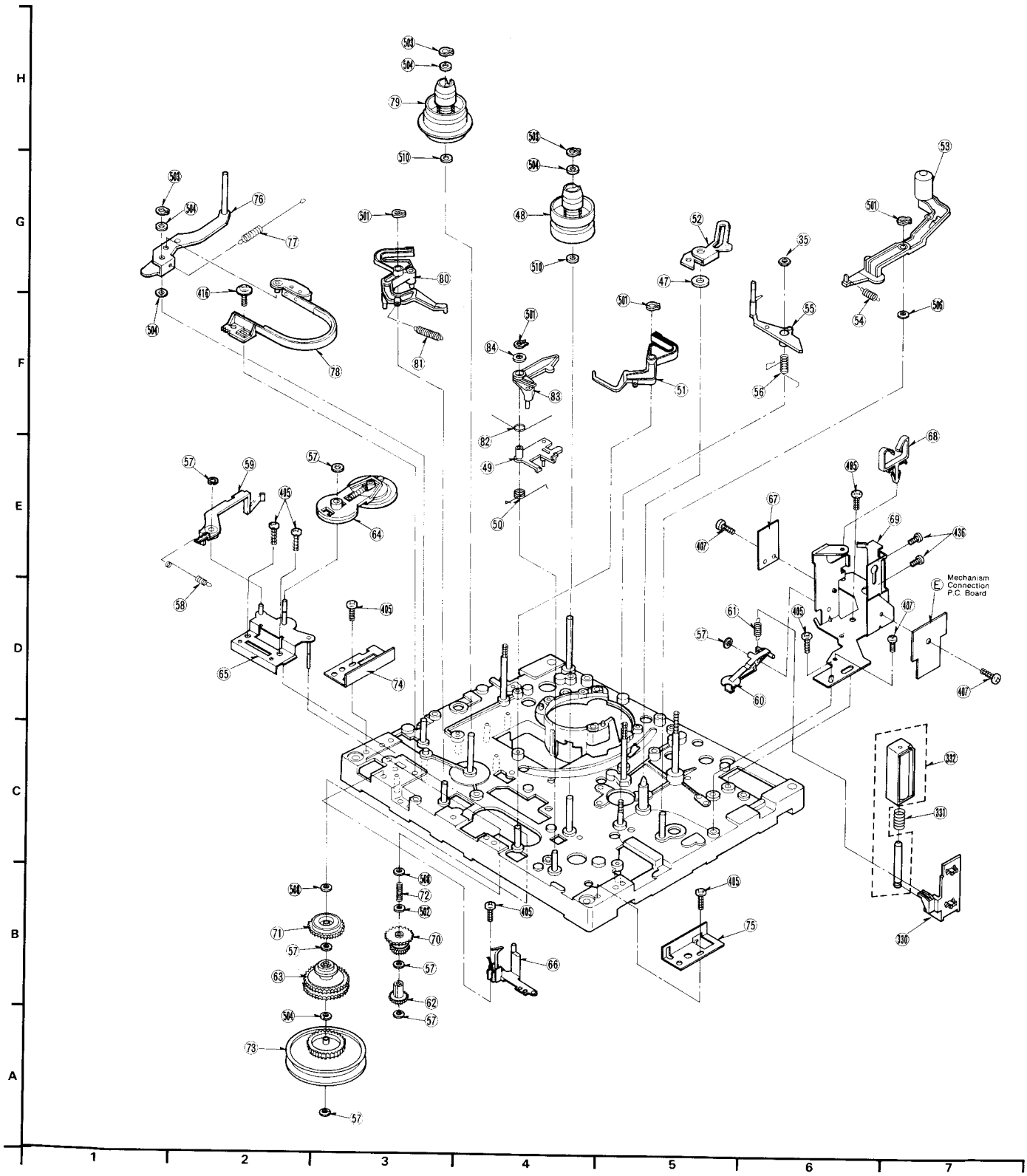
BOTTOM VIEW


Capstan Belt (VDV0149)
Kick Gear (VDG0178)
Intermediate Gear (VDG0145)
Sector Gear Unit (VXL1168)
Intermediate Gear (VDG0146)
Cam Gear (VDG0200)
Clutch Pulley (VDP0985)
Sub Clutch Unit (VXP0601)
Thrust Support Plate (VMA6504)
Sub Lever (1) Unit (VXL1233)
Main Lever Unit (VXL1231)
Mode Select SW (1) Unit (VSS0110)
Intermediate Pulley Gear (VDG0177)
Loading Belt (VDV0152)
Drive Gear [2] (VDG0143)
Loading Gear Unit (VXP0520)
Loading Gear Unit (VXP0520)
FG Head Unit (VEH0244)
Capstan Pulley Unit (VXP0597)
Capstan Stator Unit (VEK2257)
Earth Plate Unit (VXS0059)
DD Cylinder Unit (VEG0367)

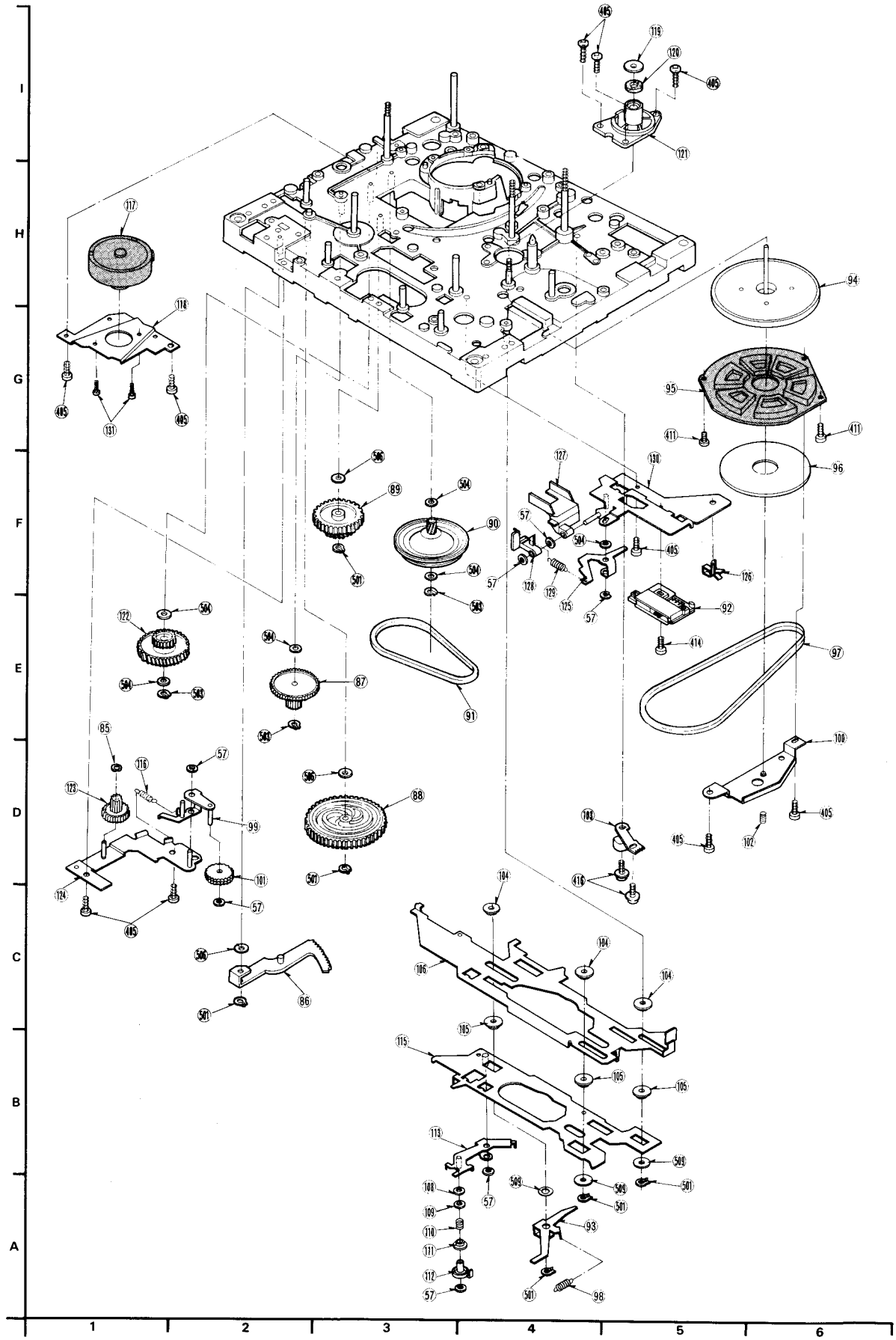
4-2. EXPLODED VIEW ❶ TRANSPORT SECTION



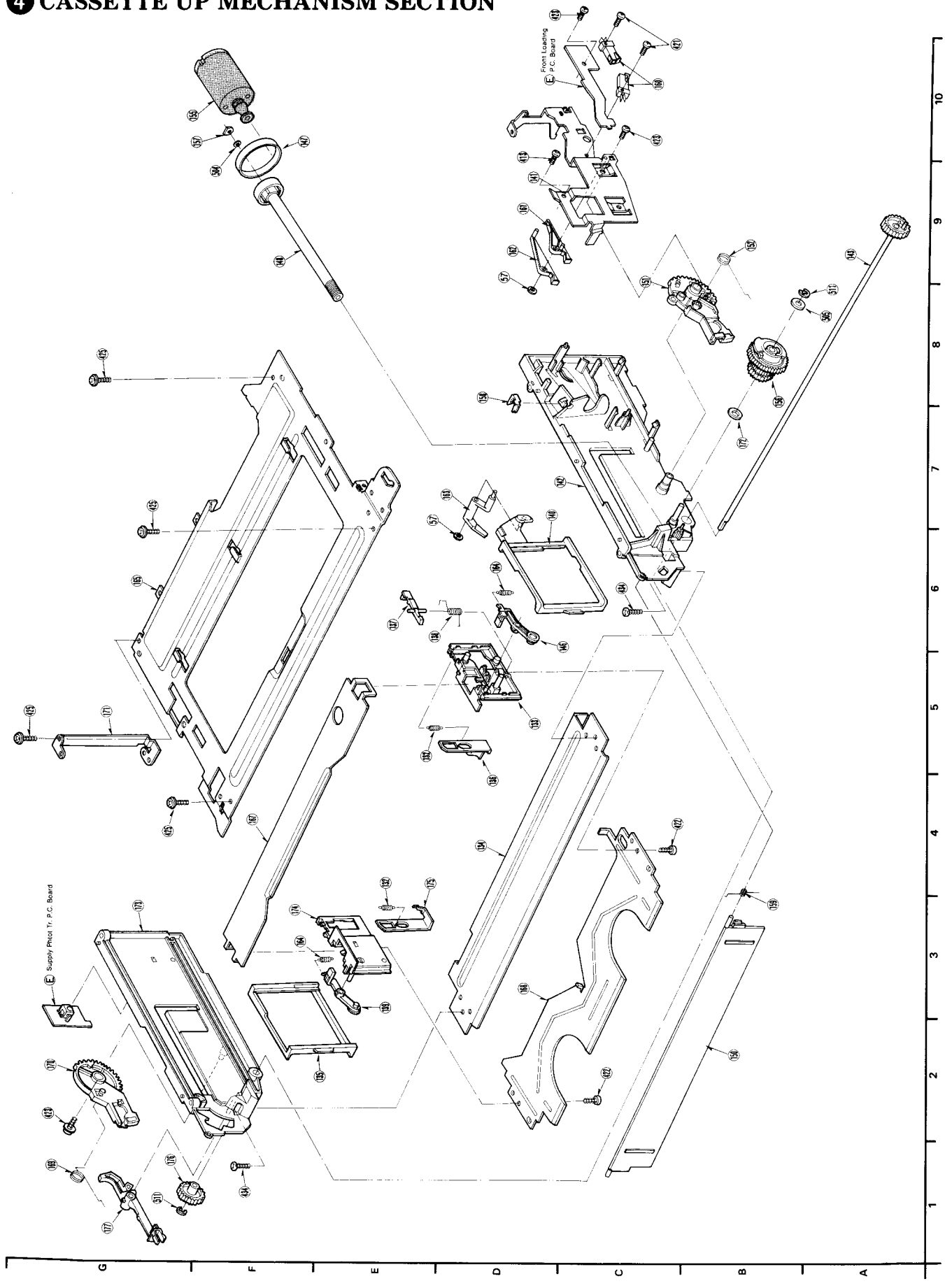
❷ MOVING MECHANISM SECTION



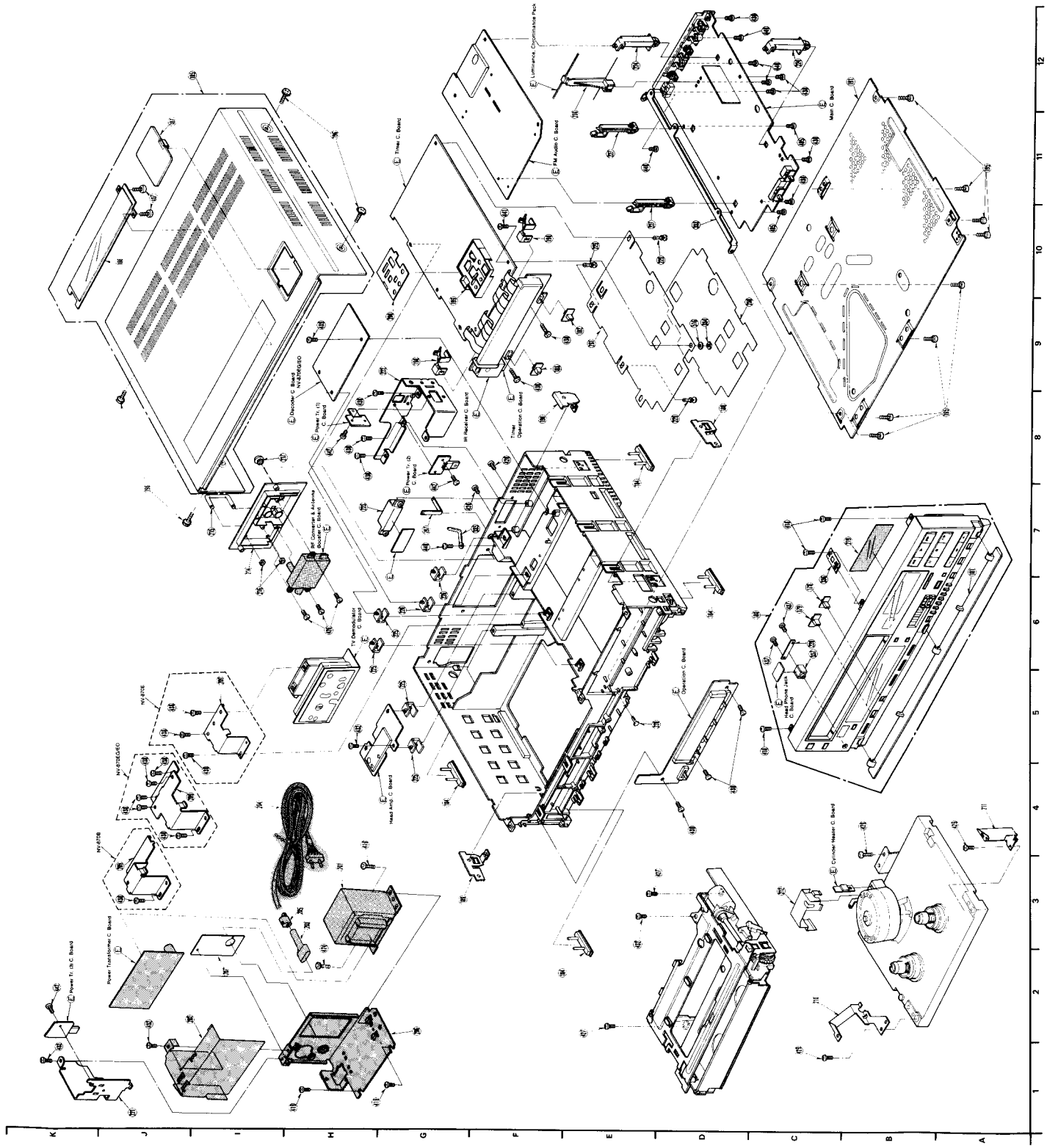
❸ CHASSIS PARTS SECTION



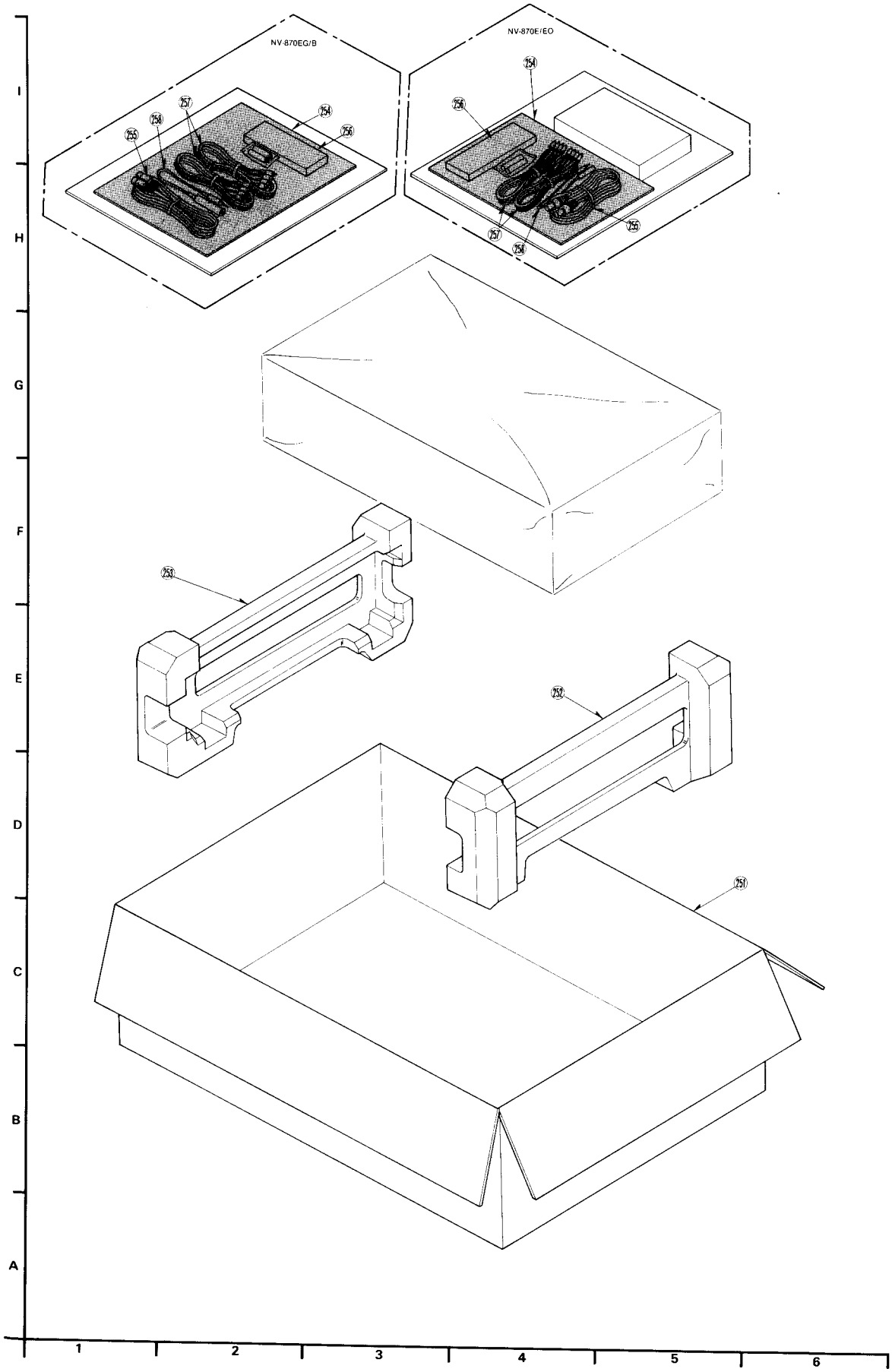
❹ CASSETTE UP MECHANISM SECTION



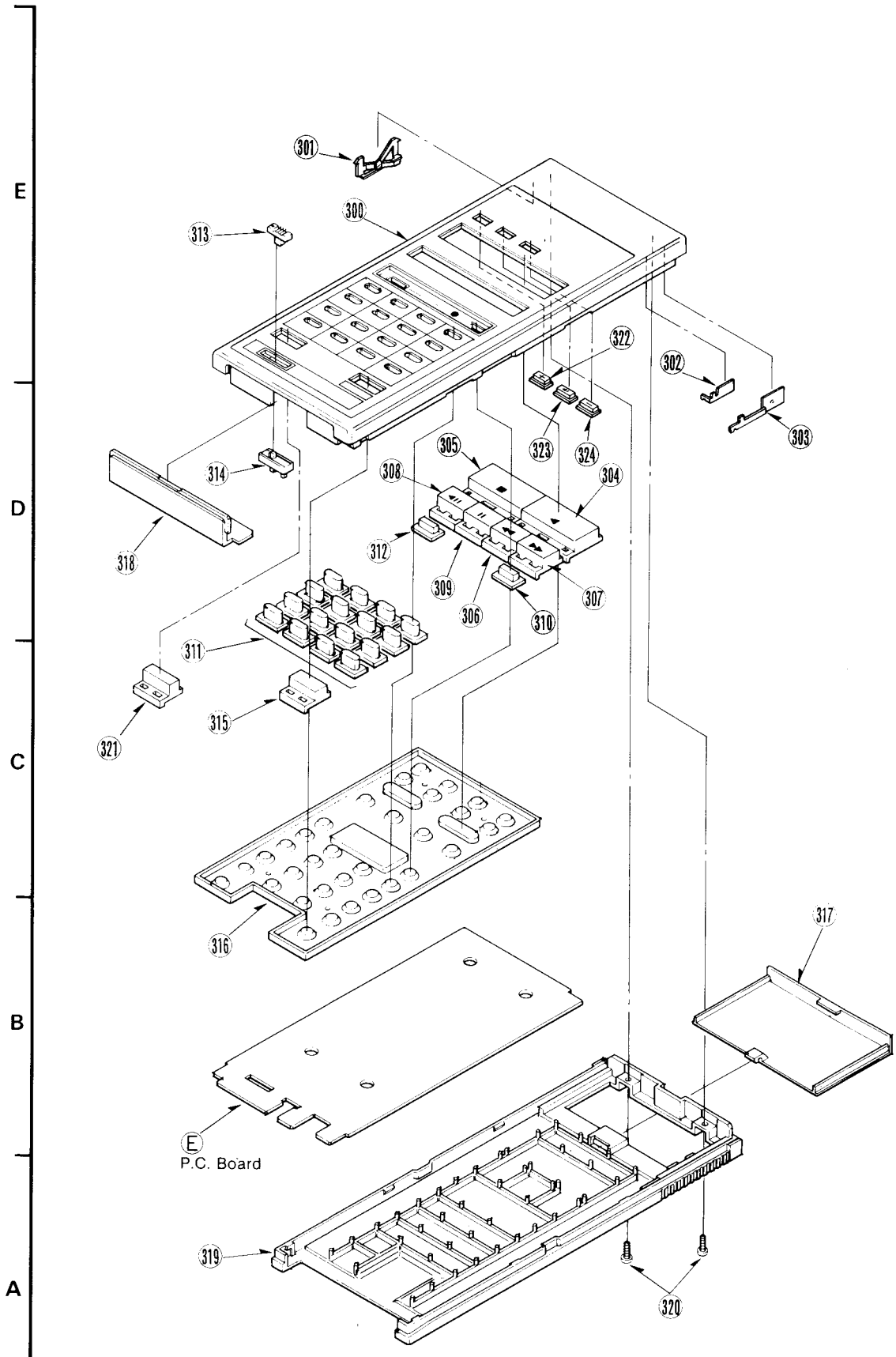
❺ CASING PARTS SECTION



⑥ PACKING PARTS SECTION



❼ REMOTE CONTROL UNIT



Memo

4-3. MECHANICAL REPLACEMENT PARTS LIST

Notes: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
1(1)	VEG0367	DD Cylinder Unit	1	⚠
2(1)	VEH0288	Upper Cylinder Unit	1	
3(1)	VJR0132	RT Terminal	1	
4(1)	VMC0049	Power Tr. Pressure Spring	1	
5(1)	VBS0030	FE Head	1	
6(1)	VML1544	FE Lever	1	
7(1)	VMB1005	FE Lever Spring	1	
8(1)	VMD0570	Post Stopper	2	
9(1)	VXP0302	Roller Post Unit	2	
10(1)	VXA1964	Inclind Base (S) Unit	1	
11(1)	VXA1965	Inclind Base (T) Unit	1	
12(1)	VHD0133	Screw	2	
13(1)	VXA1963	Loading Base (1) Unit	1	
14(1)	VHD0045	Nut	1	
15(1)	VDP0908	Limiter Roller	1	
16(1)	VMX0288	Collar	1	
17(1)	VMX0456	Lower Limiter	1	
18(1)	VMX0663	Limiter Stand	1	
19(1)	VMB0754	P1 Spring	1	
20(1)	VMA6338	Position Adjust Hook	1	
21(1)	VMA6358	Position Plate	1	
22(1)	VMA4436	Shaft Holder Stopper	1	
23(1)	VXL0753	Loading Arm (L) Unit	1	
24(1)	VXL1152	Loading Arm (R) Unit	1	
25(1)	VMB0669	Loading Spring	2	
26(1)	VXP0520	Loading Gear Unit	2	
27(1)	VXA1966	Inclind Adjustment Plate	1	
28(1)	VHD0054	Adjustment Screw (15)	1	
29(1)	VMB1251	Adjustment Spring	1	
30(1)	VEH0247	A/C Head	1	
31(1)	VHD0089B	Azimuth Adjustment Screw	1	
32(1)	VHN0038	Nylon Nut	1	
33(1)	VXA2160	Head Base Unit	1	
34(1)	VMB1189	A/C Height Spring	1	
35(1,2)	VHN0023	M3 Nylon Nut	2	
36(1)	VMX0647	Post Sleeve	1	
37(1)	VMB1235	P4 Spring	1	
38(1)	VMA6507	Chassis Bracket	1	
39(1)	VXS0059	Earth Plate Unit	1	
40(1)	VXA2155	Intermediate Angle (1) Unit	1	
41(1)	VHN0031	X Adjustment Nut	1	
42(1)	VMD0646	Wire Holder	1	
43(1)	VXL1230	Idler Stopper Unit	1	
44(1)	VMB1293	Idler Stopper Spring	1	
45(1)	VMX0750	Spacer	1	
47(2)	VMX0749	Washer	1	
48(2)	VXR0119	Takeup Reel Table Unit	1	
49(2)	VML1610	Soft Brake Release Lever	1	
50(2)	VMB1290	Soft Brake Spring (A)	1	
51(2)	VXZ0189	T Side Main Brake Unit	1	
52(2)	VML1617	P5 Pull Out Lever	1	
53(2)	VXL1209	Pressure Roller Lever Unit	1	
54(2)	VMB1001	Pin Pressure Spring	1	
55(2)	VXL1243	P5 Arm	1	
56(2)	VMB1306	P5 Spring	1	
57(2,3,4)	VMX0653	Cut Washer	15	
58(2)	VMB1198	S Soft Brake Spring	1	
59(2)	VXZ0184	S Soft Brake Arm Unit	1	
60(2)	VXZ0185	Capstan Brake (A) Unit	1	
61(2)	VMB1302	Capstan Brake Arm Spring	1	
62(2)	VDG0189	Intermediate Gear (A)	1	
63(2)	VXP0600	Center Clutch Unit	1	
64(2)	VXP0521	Idler Arm Unit	1	
65(2)	VXA2153	FF Lever Base Unit	1	
66(2)	VES0262	Safety Switch Unit	1	
67(2)	VEK2302	Dew Sensor Unit	1	
68(2)	VJF0004	Wire Saddle	1	
69(2)	VXA2157	Dew Angle (1) Unit	1	
70(2)	VDG0188	Intermediate Gear (B)	1	
71(2)	VXP0599	Clutch Gear Unit	1	
72(2)	VMB1288	Intermediate Gear Lift Spring	1	
73(2)	VDP0985	Clutch Pulley	1	
74(2)	VMA6465	Mount Plate (L)	1	
75(2)	VMA6466	Mount Plate (R)	1	
76(2)	VXL1157	Tension Arm (1) Unit	1	
77(2)	VMB1187	Tension Spring	1	
78(2)	VXZ0165	Tension Band Unit	1	
79(2)	VXR0118	Supply Reel Table Unit	1	
80(2)	VXZ0187	S Side Main Brake Unit	1	
81(2)	VMB1289	Main Brake Spring	1	
82(2)	VMB1291	Soft Brake Spring (B)	1	
83(2)	VXZ0191	T Soft Brake (1) Unit	1	
84(2)	VMX0743	Stopper Ring	1	
85(3)	VMX0521	Washer	1	
86(3)	VXL1168	Sector Gear Unit	1	
87(3)	VDG0145	Intermediate Gear	1	
88(3)	VDG0200	Cam Gear	1	
89(3)	VDG0143	Drive Gear (2)	1	
90(3)	VDG0177	Intermediate Pulley Gear	1	
91(3)	VDV0152	Loading Belt	1	
92(3)	VSS0110	Mode Select Switch (1) Unit	1	
93(3)	VML1618	Sub Clutch Release Arm	1	
94(3)	VXP0624	Capstan Rotor Unit	1	
95(3)	VEK2257	Capstan Stator Unit	1	⚠
96(3)	VXP0597	Capstan Pulley Unit	1	
97(3)	VDV0149	Capstan Belt	1	
98(3)	VMB1296	Sub Lever Spring	1	
99(3)	VXL1237	Sub Clutch Arm (1) Unit	1	
100(3)	VMA6504	Thrust Support Plate	1	
101(3)	VXP0601	Sub Clutch Unit	1	
102(3)	VMX0742	Thrust Screw	1	
103(3)	VEH0244	FG Head Unit	1	
104(3)	VMX0308	Slide Washer	1	
105(3)	VMX0122	Slide Washer	1	
106(3)	VXL1231	Main Lever Unit	1	
108(3)	VMX0672	Cut Washer	1	
109(3)	VMX0644	Washer	1	
110(3)	VMB1332	Clutch Spring	1	
111(3)	VDG0179	Clutch Gear (1)	1	
112(3)	VDG0180	Clutch Gear (2)	1	
113(3)	VXL1235	Kick Arm (1) Unit	1	
115(3)	VXL1233	Sub Lever (1) Unit	1	
116(3)	VMB1294	Sub Clutch Arm Spring	1	
117(3)	VEM0211	Loading Motor	1	⚠
118(3)	VMA6460	Loading Motor Bracket	1	
119(3)	VMX0251	Oil Seal	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
120(3)	VMD0104	Oil Pool	1	
121(3)	VXD0092	Housing Unit	1	
122(3)	VDG0146	Intermediate Gear	1	
123(3)	VDG0178	Kick Gear	1	
124(3)	VXA2162	Sub Clutch Base (1) Unit	1	
125(3)	VML1615	Select Arm (A)	1	
126(3)	VJF0013	Miniature Clamper	1	
127(3)	VML1616	Select Arm (B)	1	
128(3)	VML1624	Select Pressure Lever	1	
129(3)	VMB1295	Select Arm Spring	1	
130(3)	VXA2158	Switch Base Unit	1	
131(3)	VHD0146	Screw	2	
132(4)	VMB1256	Safety Lever Spring	2	
133(4)	VXA2199	Holder Guide (R) 1 Unit	1	
134(4)	VMA6511	Cassette Guide	1	
135(4)	VMD0634	Slider (L)	1	
136(4)	VMM0139	Safety Lever (R)	1	
137(4)	VML1585	Release Lever	1	
138(4)	VMB1259	Release Lever Spring	1	
139(4)	VXL1246	Pressing Lever (L) Unit	1	
140(4)	VXA2169	Slider (R) 1 Unit	1	
141(4)	VXA2174	Switch Bracket (1) Unit	1	
142(4)	VXA2172	Side Plate (R) 1 Unit	1	
143(4)	VXP0591	Main Shaft Unit	1	
146(4)	VXL1247	Pressing Lever (R) Unit	1	
147(4)	VDV0153	Slot-In Belt	1	
148(4)	VXP0606	Worm Shaft Unit	1	
150(4)	VKF0405	Blinder Panel	1	(Silver)
150(4)	VKF0487	Blinder Panel	1	(Black)
151(4)	VML1619	Wiper Arm (R)	1	
152(4)	VMB1300	Wiper Spring (R)	1	
155(4)	VEM0218	Front Loading Motor	1	⚠
156(4)	VXP0604	Worm Wheel Unit	1	
157(4)	VDB0739	Worm Shaft Angle	1	
158(4)	VMD0648	Worm Stopper	1	
159(4)	VMB1258	Blinder Spring	1	
160(4)	VSM0049	Skelton Switch	1	
161(4)	VML1622	Switch Lever A	1	
162(4)	VML1623	Switch Lever B	1	
163(4)	VXL1238	Cassette Openner Unit	1	
164(4)	VMB1256	Pressing Lever Spring	2	
165(4)	VMA6512	Top Plate	1	
167(4)	VXA2181	Remains Display Panel Unit	1	
168(4)	VMA6513	Cassette Holder	1	
169(4)	VMB1301	Wiper Spring (L)	1	
170(4)	VML1620	Wiper Arm (L)	1	
171(4)	VSC1260	Shield Bracket (L)	1	
172(4)	XWGV56D10G	Washer	1	
173(4)	VMD0662	Side Plate (L)	1	
174(4)	VXA2200	Holder Guide (L) 1 Unit	1	
175(4)	VMM0140	Safety Lever (L)	1	
176(4)	VDG0172	Shaft Gear	1	
177(4)	VML1625	Front Opener Lever	1	
178(5)	VGU1854	AGC Knob	1	
179(5)	VGU1840	Audio level Select Knob	1	
180(5)	VYP1185	Front Panel Unit	1	NV-870E(Silver)
180(5)	VYP1186	Front Panel Unit	1	NV-870E(Black)/B
180(5)	VYP1193	Front Panel Unit	1	NV-870EG/EO(Silver)
180(5)	VYP1194	Front Panel Unit	1	NV-870EG/EO(Black)
181(5)	VYF0551	Timer Door Unit	1	(Silver)
181(5)	VYF0552	Timer Door Unit	1	(Black)
182(5)	VGU1830	Timer Rec Knob	1	
183(5)	VGU1781	Function Select Knob	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
184(5)	VKA0026	Rubber Foot	4	
185(5)	VYP1183	Top Panel Unit	1	NV-870E/EG/EO(Silver)
185(5)	VYP1184	Top Panel Unit	1	NV-870E/EG/EO(Black)
185(5)	VYP1192	Top Panel Unit	1	NV-870B
186(5)	VKW0468	Smoke Board	1	(Silver)
186(5)	VKW0476	Smoke Board	1	(Black)
187(5)	VYF0553	Preset Cover Unit	1	NV-870E/EG/EO(Silver)
187(5)	VYF0554	Preset Cover Unit	1	NV-870E/EG/EO(Black)
187(5)	VYF0555	Preset Cover Unit	1	NV-870B
188(5)	VMP0463	Top Case Hold Angle (R)	1	
189(5)	VMP0464	Top Case Hold Angle (L)	1	
190(5)	VMP0442	Top Case Hold Angle	1	
191(5)	VKU0216	Bottom Plate	1	
195(5)	VHD0059	Screw	8	
196(5)	VHD0166	Screw	4	(Silver)
196(5)	VHD0165	Screw	4	(Black)
197(5)	VJF0139	AC Cord Band	1	
198(5)	VKC0128	Hinge (A)	2	
199(5)	VGQ0754	CH Preset Case	1	
200(5)	VGH0430	CH Preset Name Plate	1	NV-870EG/EO
200(5)	VGH0454	CH Preset Name Plate	1	NV-870B
200(5)	VGH0453	CH Preset Name Plate	1	NV-870E
201(5)	VTP0137	Power Transformer	1	NV-870E/EG/EO⚠
201(5)	VTP0138	Power Transformer	1	NV-870B⚠
202(5)	VMZ0616	Power Transformer Barrier	1	⚠
203(5)	VMX0237	AC Cord Cover	1	⚠
204(5)	VJA0111	AC Cord	1	NV-870E/EG/EO⚠
204(5)	VJA0112	AC Cord	1	NV-870B⚠
205(5)	VJF0107	AC Cord Bushing	1	NV-870E/EG/EO⚠
205(5)	VJF0206	AC Cord Bushing	1	NV-870B⚠
206(5)	VMP0517	Power Transformer Angle	1	⚠
207(5)	VGH0238	Power Name Plate	1	
208(5)	VJF0227	Luminance,Chrominance Pack Angle	1	
209(5)	VMP0429	Tuner Support Angle	1	NV-870E
209(5)	VMP0470	Tuner Support Angle	1	NV-870B
209(5)	VMP0518	Tuner Support Angle	1	NV-870EG/EO
210(5)	VSC1175	Shield Angle (L)	1	
211(5)	VSC1174	Shield Angle (R)	1	
212(5)	VSC1287	Cylinder Shield Case	1	
214(5)	VJH0321	RF & Antenna Board	1	NV-870E/EO/B
214(5)	VJH0324	RF & Antenna Board	1	NV-870EG
215(5)	VKH0105	Hook	1	NV-870B
216(5)	XNG3BS	Nut	2	NV-870B
217(5)	VMG0272	RF Converter Bushing	1	
219(5)	VKW0431	Timer Display Filter	1	⚠
220(5)	VMA6327	Head Phone Jack Support Angle	1	
221(5)	VSC1277	Heat Sink(L)	1	
222(5)	VSC1278	Heat Sink(R)	1	
223(5)	VJS1469	21P Jack	1	
224(5)	VJF0244	FM Audio P.C. Board Support	2	
225(5)	VKC0068	Hinge	4	
226(5)	VKC0068	Hinge	2	NV-870EG/EO
227(5)	VKC0141	FM Audio Hinge	2	
228(5)	VJF0209	Clip	1	
229(5)	VHN0041	Rivet	3	
230(5)	VMZ0617	Barrier (A)	1	
231(5)	VMZ0618	Barrier (B)	1	
251(6)	VPG1958	Packing Case	1	NV-870B
251(6)	VPG1959	Packing Case	1	NV-870E (Silver)
251(6)	VPG1960	Packing Case	1	NV-870E (Black)
251(6)	VPG1961	Packing Case	1	NV-870EO (Silver)
251(6)	VPG1962	Packing Case	1	NV-870EO (Black)
251(6)	VPG1971	Packing Case	1	NV-870EO (Silver)

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
251(6)	VPG1972	Packing Case	1	NV-870EG (Black)
252(6)	VPN1160	Cushion (R)	1	
253(6)	VPN1161	Cushion (L)	1	
254(6)	VQF1385	Fan Bag Kit	1	NV-870B⚠
254(6)	VQF1386	Fan Bag Kit	1	NV-870E⚠
254(6)	VQF1387	Fan Bag Kit	1	NV-870EO⚠
254(6)	VQF1393	Fan Bag Kit	1	NV-870EG⚠
255(6)	VJA0217	DIN RF Cable	1	
256(6)	VSQ0419	Remote Control Unit	1	(Silver)
256(6)	VSQ0420	Remote Control Unit	1	(Black)
257(6)	VJA0231	Audio Cable	2	
258(6)	VJA0253	M3-M6 Adaptor	1	
300(7)	VYK0871	Top Case Unit	1	(Silver)Remote Control Unit
300(7)	VYK0873	Top Case Unit	1	(Black)Remote Control Unit
301(7)	VJR0101	Electrode (Common)	1	Remote Control Unit
302(7)	VJR0100	Electrode (-)	1	Remote Control Unit
303(7)	VJR0099	Electrode (+)	1	Remote Control Unit
304(7)	VGU1204	Play Button	1	Remote Control Unit
305(7)	VGU1205	Stop Button	1	Remote Control Unit
306(7)	VGU1209	FF Botton	1	Remote Control Unit
307(7)	VGU1208	Rew Button	1	Remote Control Unit
308(7)	VGU1207	F. Adv Button	1	Remote Control Unit
309(7)	VGU1206	Still Button	1	Remote Control Unit
310(7)	VGU1212	Rec Button A (Red)	1	Remote Control Unit
311(7)	VGU1615	CH. Select Button	16	(Silver)Remote Control Unit
311(7)	VGU1618	CH. Select Button	16	(Black)Remote Control Unit
312(7)	VGU1616	Rec B Button	1	(Silver)Remote Control Unit
312(7)	VGU1619P/L	Rec B Button	1	(Black)Remote Control Unit
313(7)	VGU1213	Power Button	1	Remote Control Unit
314(7)	VGQ0601	Button Holder	1	Remote Control Unit
315(7)	VGU1210	VTR Button	1	Remote Control Unit
316(7)	VSP0150	Rubber Contact	1	Remote Control Unit
317(7)	VKF0340	Battery Cover	1	Remote Control Unit
318(7)	VKW0297	Smoke Board	1	Remote Control Unit
319(7)	VYK0872	Bottom Case Unit	1	(Silver)Remote Control Unit
319(7)	VYK0874	Bottom Case Unit	1	(Black)Remote Control Unit
320(7)	XTB2+5GFZ	Screw	2	Remote Control Unit
321(7)	VGU1614	Shift Button	1	Remote Control Unit
322(7)	VGU1613	Slow (+) Button	1	Remote Control Unit
323(7)	VGU1612	Slow Button	1	Remote Control Unit
324(7)	VGU1611	Slow (-) Button	1	Remote Control Unit
330(2)	VMM0141	Capstan Brake Lever	1	
331(2)	VMB1208	Capstan Brake Release Spring	1	
332(2)	VSJ0067	Pause Solenoid	1	
333(5)	VMP0432	Main Board Support Angle	1	
334(5)	XNF3EFU	Nut	1	
335(5)	VJR3	Clamper	1	
336(5)	VMC0069	Earth Spring	1	
337(5)	VJJ0096	Head Phone Jack	1	
338(5)	VJS1469	21P Jack	1	
		Screws		
401(1)	XYNV0027		2	
402(1)	XTN26+6G		1	
403(1)	VHD0147		4	
404(1)	XSN3+8BVS		1	
405(1,2,3,5)	XTV3+8F		32	
406(1)	XSS26+6		1	
407(2,5)	XTV3+6F		7	
408(1)	XSN3+6BVS		1	
409(1)	XSN3+4		1	
410(1)	XSN3D10FZS		1	
411(1,3)	XTV3+8FFZ		2	
412(1)	XSN3+8		3	
413(4)	XTN26+6FFZ		1	
414(3)	XYE3+BF10FZ		1	
416(1,2,3)	VHD0149		4	
418(5)	XTW3+10PR		3	
419(5)	XTV4+10A		3	
420(5)	XTV3+10JFZ		5	
421(4)	XYN2+F10		2	
422(4)	XTN26+6JFZ		2	
423(4)	XYC26+BJ10		3	
424(5)	XTV4+8F		1	
425(4)	XTB26+8J		4	
426(5)	XTV3+10G		3	
427(5)	XTV3+10FR		2	
429(5)	XTV4+15A		3	
430(5)	XTV3+10GR		15	
432(1,5)	XTV3+8FR		4	
434(4)	XTN26+6FZ		2	
435(5)	XYN3+F6RS		2	NV-870E/B
435(5)	XYN3+F6RS		4	NV-870EG/EO
436(2)	XYN26+C4		2	
437(5)	XTN23+8G		2	
438(5)	XYN3+F5S		4	NV-870EG/EO
438(5)	XYN3+F5S		2	NV-870E
439(5)	XTV3+10GR		1	NV-870EG/EO
440(5)	XTV3+8G		5	
441(5)	XSN3+W6FU		1	
442(5)	XTV3+8J		3	
		Washers & Rings		
501(1,2,3)	XUEV4VW		15	
502(2)	XWGV5D9G		1	
503(2,3)	XUEV3VW		6	
504(2,3,4)	XWGV3D6G		12	
505(4)	XWGV3D8G		1	
506(2,3)	XWGV4D9G		4	
507(1)	XWGV3Y6G		2	
508(2)	XWGV3D54G		2	
509(3)	XWGV4D11G		3	
510(2)	XWGV3D8G		2	
511(4)	XUC25FP		2	
512(1)	XWGV3FZ		1	
513(1)	XWA4BFZ		2	
514(1)	XWG4FZ		1	
515(1)	XWA3B		4	
516(5)	XWG3FU		1	

4-4. ELECTRICAL REPLACEMENT PARTS LIST

Notes: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS (Ω), 1/4W ± 5% carbon. K=1,000Ω, M=1,000KΩ. All capacitors are in MICROFARADS (μF), ± 10% P=μμF.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP01166A	Power Transformer P.C. Board Unit	1	⚠
	VEP03229A	Main (Power Supply, Servo, Luminance, Audio System Control & Chrominance) P.C. Board Unit	1	Including the Luminance,Chrominance Pack P.C. Board Unit (VEP03232A) & Audio Pack P.C. Board Unit (VEP04110). NV-870E/EO ⚠
	VEP03229B	Main (Power Supply, Servo, Luminance, Audio System Control & Chrominance) P.C. Board Unit	1	Including the Luminance,Chrominance Pack P.C. Board Unit (VEP03232A) & Audio Pack P.C. Board Unit (VEP04110). NV-870B ⚠
	VEP03229C	Main (Power Supply, Servo, Luminance, Audio System Control & Chrominance) P.C. Board Unit	1	Including the Luminance,Chrominance Pack P.C. Board Unit (VEP03232B) & Audio Pack P.C. Board Unit (VEP04110). NV-870EG ⚠
	VEP03232A	Luminance & Chrominance Pack P.C. Board Unit	1	NV-870E/B/EO
	VEP03232B	Luminance & Chrominance Pack P.C. Board Unit	1	Including the SECAM Pack P.C. Board Unit (VEP03233A). NV-870EG
	VEP03233A	SECAM Pack P.C. Board Unit	1	NV-870EG
	VEP04110	Audio Pack P.C. Board Unit	1	
	VEP04106A	FM Audio P.C. Board Unit	1	NV-870E/B
	VEP04106B	FM Audio P.C. Board Unit	1	NV-870EG/EO
	VEP05060A	Head Amp P.C. Board Unit	1	
	VEP06239A	Operation P.C. Board Unit	1	
	VEB0047Z1	TV Demodulator P.C. Board Unit	1	NV-870E ⚠
	VEB0047Y1	TV Demodulator P.C. Board Unit	1	NV-870B ⚠
	VEB0067A1	TV Demodulator P.C. Board Unit	1	NV-870EG ⚠
	VEB0067B1	TV Demodulator P.C. Board Unit	1	NV-870EO ⚠
	VEP07243A	Decoder P.C. Board Unit	1	NV-870EG/EO ⚠
	VEP07250A	Timer P.C. Board Unit	1	NV-870EG/EO ⚠
	VEP07250B	Timer P.C. Board Unit	1	NV-870B ⚠
	VEP07250C	Timer P.C. Board Unit	1	NV-870E ⚠
	VEP07251A	Timer Operation P.C. Board Unit	1	NV-870EG/EO
	VEP07251B	Timer Operation P.C. Board Unit	1	NV-870E/B
	ENC87771	RF Converter & Antenna Booster Unit	1	NV-870E ⚠
	ENC87772	RF Converter & Antenna Booster Unit	1	NV-870B ⚠
	ENC87774	RF Converter & Antenna Booster Unit	1	NV-870EO ⚠
	ENC87776	RF Converter & Antenna Booster Unit	1	NV-870EG ⚠
	VJB00C40	Supply Photo Tr. P.C. Board	1	
	VJB00C48	Sensor LED P.C. Board	1	
	VJB00D08	Mechanism Connection P.C. Board	1	
	VJB00D10	Front Loading P.C. Board	1	
	VJB00D11	Reel Sensor P.C. Board	1	
	VJB00D12	21 Pin Connector P.C. Board	1	
	VJB00D25	IR Receiver P.C. Board	1	
	VJB00D62	Power Tr.(1) P.C. Board	1	
	VJB00D63	Power Tr.(2) P.C. Board	1	
	VJB00D64	Power Tr.(3) P.C. Board	1	
	VJB00D65	Head Phone Jack P.C. Board	1	
	VJB00D81	Cylinder Heater P.C. Board	1	
	VEP22026A	Remote Control P.C. Board Unit	1	
T1101	VTP0137	Power Transformer	1	NV-870E/EG/EO ⚠
T1101	VTP0138	Power Transformer	1	NV-870B ⚠
	VJF00052	Binder	2	(For Power Transformer P.C. Board)

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VSC1277	Heat Sink (L)	1	(For Q1504)
	VSC1278	Heat Sink (R)	1	(For Q1502,Q1503)
	VMB0758	Tr. Spring	1	(For Q1504)
	VMC0084	Tr. Spring	2	(For Q1502,1503)
	XTV3+8J	Screw	3	(For Q1502,1503,1504)
	VJR3	Clamper	1	(For Heat Sink)
	VEP01166A	Power Transformer P.C. Board Unit	1	
		Diodes		
D1101-1112	10E1		12	
D1113,1114	10E2		2	
D1115	MA4062	Zener	1	
D1116	MA4150	Zener	1	
		Resistors		
R1101	ERD2FCJ8R2	Fuse Resistor 8.2	1	⚠
R1102	ERDS2TJ472	4.7k	1	
R1103	ERDS2TJ102	1k	1	
		Capacitors		
C1101-1103	ECKF1H103ZF	Ceramic 50V 0.01	3	
C1104	ECEA1CU222	Electrolytic 16V 2200	1	
C1105	ECEA1EU222	Electrolytic 25V 2200	1	
C1106	ECEA1EU472	Electrolytic 25V 4700	1	
C1107,1108	ECEA1JU101	Electrolytic 63V 100	2	
C1109	ECEA1EU102	Electrolytic 25V 1000	1	
C1110	ECEA0JU470	Electrolytic 6.3V 47	1	
		Fuses		
F1101	XBA2C03TRO	250V 315mA	1	⚠
F1102	XBA2C10TRO	250V 1A	1	⚠
F1103	XBA2C16TRO	250V 1.6A	1	⚠
		Connectors		
P1101	VJP1145	8P	1	
P1102,1103	VJP1230	3P	2	
P1105	VJP1142	3P	1	
P1106	VJP1229	2P	1	
		Miscellaneous		
	SJT777	AC Cord Clamp Pin	2	⚠
	TJC6320	Fuse Holder	6	⚠

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP03229A/B/C	Main (Power Supply, Servo,Luminance,Audio, System Control & Chrominance) P.C. Board Unit	1	Including the Luminance,Chrominance Pack P.C. Board Unit (VEP03232A/B),SECAM Pack P.C. Board Unit (VEP03232A) & Audio Pack P.C. Board Unit (VEP04110)
	VEP03232A/B	Luminance, Chrominnce Pack P.C. Board Unit	1	VEP03232B(NV-870EG) including the SECAM P.C. Board Unit (VEP03233A).
		P.C.B. Ass'y		
IC301	VEFY007		1	
IC801	VEFC009		1	
		Integrated Circuit		
IC302	BA7004		1	
		Transistors		
Q301,302	2SC2206		2	
Q304	2SB641		1	
Q801	2SC2206		1	
Q802,803	2SD636		2	
		Combination Parts (Transistor & Resistor)		
QR301	DTC144A		1	
QR801	DTC144A		1	
		Diodes		
D301-303	MA165		3	
D801	MA165		1	
		Resistors		
R301,302	ERDS2TJ561	560	2	
R303	ERDS2TJ331	330	1	
R304	ERDS2TJ681	680	1	
R305	ERDS2TJ102	1k	1	
R306	ERDS2TJ151	150	1	
R307	ERDS2TJ222	2.2k	1	
R308	ERDS2TJ562	5.6k	1	
R309	ERDS2TJ474	470k	1	
R310	ERDS2TJ394	390k	1	
R312	ERDS2TJ103	10k	1	
R313	ERDS2TJ393	39k	1	
R314	ERDS2TJ152	1.5k	1	
R315	ERDS2TJ272	2.7k	1	
R316	ERDS2TJ472	4.7k	1	
R317	ERDS2TJ682	6.8k	1	
R318	ERDS2TJ152	1.5k	1	
R319	ERDS2TJ561	560	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R320	ERDS2TJ183	18k	1	
R321	ERDS2TJ124	120k	1	
R801,802	ERDS2TJ221	220	2	
R803	ERDS2TJ333	33k	1	
R804	ERDS2TJ393	39k	1	
R805	ERDS2TJ122	1.2k	1	
R806	ERDS2TJ271	270	1	
R807	ERDS2TJ102	1k	1	
R808	ERDS2TJ105	1M	1	
R809	ERDS2TJ822	8.2k	1	
R810	ERDS2TJ562	5.6k	1	
R811	ERDS2TJ102	1k	1	
R812	ERDS2TJ471	470	1	
R813	ERDS2TJ104	100k	1	
R814,815	ERDS2TJ562	5.6k	2	
R816	ERDS2TJ821	820	1	
R817	ERDS2TJ472	4.7k	1	
R818	ERDS2TJ273	27k	1	
R819	ERDS2TJ470	47	1	
R820,821	ERDS2TJ103	10k	2	
R822	ERDS2TJ182	1.8k	1	
R824	ERDS2TJ272	2.7k	1	
R825	ERDS2TJ562	5.6k	1	
		Capacitors		
C301	ECCF1H040CC	Ceramic 50V 4P	1	
C302	ECEA0JU331	Electrolytic 6.3V 330	1	
C303	ECEA0JK470	Electrolytic 6.3V 47	1	
C304	ECKF1H103ZF	Ceramic 50V 0.01	1	
C305	VCKF1H181JA	Semiconductor 50V 180P	1	
C306,307	ECEA1CK100	Electrolytic 16V 10	2	
C308	ECEA1AK470	Electrolytic 10V 47	1	
C309	ECCF1H330JC	Ceramic 50V 33P	1	
C310	ECKF1H221KB	Ceramic 50V 220P	1	
C311	ECEA1CK100	Electrolytic 16V 10	1	
C312	ECEA1EK3R3	Electrolytic 25V 3.3	1	
C313	ECEA1HK2R2	Electrolytic 50V 2.2	1	
C314	ECEA1EK4R7	Electrolytic 25V 4.7	1	
C315	ECEA1HK2R2	Electrolytic 50V 2.2	1	
C316-319	ECEA1CK100	Electrolytic 16V 10	4	
C320,321	VCYF1E332MR	Semiconductor 25V 3300P	2	
C322	ECQV1H104JZ	Mylar 50V 0.1	1	
C801	ECKF1H103ZF	Ceramic 50V 0.01	1	
C802	ECQB1H223JH	Mylar 50V 0.022	1	
C803	ECKF1H103ZF	Ceramic 50V 0.01	1	
C804	ECCF1H270JC	Ceramic 50V 27P	1	
C805	ECKF1H471KB	Ceramic 50V 470P	1	
C806	ECEA1CK100	Electrolytic 16V 10	1	
C807	ECEA1HK2R2	Electrolytic 50V 2.2	1	
C808	ECEA1OZ100	Electrolytic 10V 100	1	
C809	ECEA1AK470	Electrolytic 10V 47	1	
C810	ECCF1H050CC	Ceramic 50V 5P	1	
C811	ECKF1H102KB	Ceramic 50V 1000P	1	
C812	ECEA1AK470	Electrolytic 10V 47	1	
C813	ECQV1H154JZ	Mylar 50V 0.15	1	
C814	ECKF1H103ZF	Ceramic 50V 0.01	1	
C815	ECKF1H471KB	Ceramic 50V 470P	1	
C817	ECKF1H103ZF	Ceramic 50V 0.01	1	
C818	ECQV1H154JZ	Mylar 50V 0.15	1	
C819	ECKF1H821KB	Ceramic 50V 820P	1	
C820,821	ECQV1H104JZ	Mylar 50V 0.1	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Coils		
L301,302	VLQEL05F150K	15uH	2	
L303	VLQEL05F101K	100uH	1	
L304	VLQEL05F6R8K	6.8uH	1	
L305	VLQEL05F101K	100uH	1	
L306	VLQEL05F151K	150uH	1	
L307-309	VLQEL05F101K	100uH	3	
L310	VLQEL05F010K	1uH	1	
L801	VLQEL05F150K	15uH	1	
L802	VLQEL05F470K	47uH	1	
L803	VLQEL05F270K	27uH	1	
L804	VLQEL05F151K	150uH	1	
L805	VLQEL05F101K	100uH	1	
L806	VLQEL05F470K	47uH	1	
L807,808	VLQEL05F681K	680uH	2	
L809	VLQEL05F331K	330uH	1	
		Combination Circuit (Capacitor & Resistor)		
CR801	EXED820K332C	82P 3.3k	1	
		Delay Lines		
DL301	EFDVN645A43D		1	
DL801	EFDHR124A13A		1	
		Filters		
FL301	ELB5G043		1	
FL302	VLFO333		1	
FL801	VLFO299		1	
		Crystal Oscillators		
X301	VSX0099		1	
X801	VSX0129		1	
		Connectors		
	VJR0128	5P	3	
	VJR0130	12P	1	
	VEP03233A	SECAM P.C. Board Unit	1	NV-870EG
		Integrated Circuit		
IC851	BA7025L		1	
		Transistor		
Q851	2SC2206		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Combination Parts		
		(Transistor & Resistor)		
QR851	DTC124A		1	
		Diode		
D851	MA165		1	
		Resistors		
R851	ERDS2TJ332	3.3k	1	
R852	ERDS2TJ122	1.2k	1	
R853	ERDS2TJ103	10k	1	
R854	ERDS2TJ472	4.7k	1	
R855	ERDS2TJ223	22k	1	
R856	ERDS2TJ390	39	1	
R857	ERDS2TJ222	2.2k	1	
R858	ERDS2TJ154	150k	1	
R859	ERDS2TJ221	220	1	
R860	ERDS2TJ102	1k	1	
R861	ERDS2TJ103	10k	1	
		Capacitors		
C851,852	ECKF1H103ZF	Ceramic 50V 0.01	2	
C853	ECEA1CK330	Electrolytic 16V 33	1	
C854	ECKF1H681KB	Ceramic 50V 680P	1	
C855	ECEA1AK470	Electrolytic 10V 47	1	
C856	ECEA1CK330	Electrolytic 16V 33	1	
C857	ECQV1H563JZ	Mylar 50V 0.056	1	
C858	ECKF1H103ZF	Ceramic 50V 0.01	1	
		Coil		
L851	VLQEL05F101K	100uH	1	
		Filter		
FL851	VLFO143		1	
		Transformer		
T851	ELM7Q207A		1	
		Connector		
	VJRO131	13P	1	
	VEPO4110	Audio Pack P.C. Board	1	
		Unit		
		Integlated Circuits		
IC401	uPC1514CA		1	
IC402	uPC1519HA		1	
		Transistors		
Q401	2SD602A		1	(R,T,W)
Q404	2SD1328		1	(Q,R,T,W)

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Resistors		
R401	ERJ6GCYJ153	Chip 15k	1	
R402	ERJ6GCYJ392	Chip 3.9k	1	
R403	ERJ6GCYJ182	Chip 1.8k	1	
R404	ERJ6GCYJ560	Chip 56	1	
R405	ERJ6GCYJ105	Chip 1M	1	
R406	ERJ6GCYJ681	Chip 680	1	
R407	ERJ6GCYJ102	Chip 1k	1	
R408		Chip 120k	1	
R410	ERJ6GCYJ392	Chip 3.9k	1	
R411	ERJ6GCYJ331	Chip 330	1	
R413	ERJ6GCYJ332	Chip 33k	1	
R415	ERJ6GCYJ563	Chip 56k	1	
R418	ERJ6GCYJ102	Chip 1k	1	
R419	ERJ6GCYJ392	Chip 3.9k	1	
R420	ERJ6GCYJ561	Chip 560	1	
R422	ERJ6GCYJ562	Chip 5.6k	1	
R425	ERJ6GCYJ332	Chip 3.3k	1	
R426	ERJ6GCYJ102	Chip 1k	1	
		Capacitors		
C401	ECEA1HKO10	Electrolytic 50V 1	1	
C402	ECUX1H102KBN	Chip 50V 1000P	1	
C403	ECEA1CKL100	Electrolytic 16V 10	1	
C404	ECQP1222JZ	Mylar 100V 2200P	1	
C405	ECEA1AK470	Electrolytic 10V 47	1	
C406	ECEA1CK470	Electrolytic 16V 47	1	
C407	ECUX1H102KBN	Chip 50V 1000P	1	
C408	ECEA1CKM100	Electrolytic 16V 10	1	
C409	ECEA0JK101	Electrolytic 6.3V 100	1	
C410	ECQB1H683JH	Mylar 50V 0.068	1	
C411	ECEA1CK100	Electrolytic 16V 10	1	
C412	ECEA1AK330	Electrolytic 10V 33	1	
C414	ECEA1HKO10	Electrolytic 50V 1	1	
C416	ECQB1H223JH	Mylar 50V 0.022	1	
C417	ECQB1H333JH	Mylar 50V 0.033	1	
C418	ECEA1CKM100	Electrolytic 16V 10	1	
C419	ECEA1AK330	Electrolytic 10V 33	1	
C420	ECEA1CK470	Electrolytic 16V 47	1	
C421	ECCD2H121K	Ceramic 500V 120P	1	
C422	ECCEA1CK100	Electrolytic 16V 10	1	
C423	ECQB1H273JH	Mylar 50V 0.027	1	
C424	ECEA1HKO10	Electrolytic 50V 1	1	
		Combination Circuits		
		(Capacitor & Resistor)		
CR401	EXED103Z153C	0.01 15k	1	
CR402	EXED102K473C	1000P 47k	1	
		Coils		
L401	VLQEL05F471K	470u	1	
L402	VLQEL07F822J	8.2m	1	
		Filter		
FL401	VLFO332		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Transformer		
T401	EIQ7QF001B		1	
		Connectors		
PK401	VJR0131	13P	1	
PK402	VJR0128	5P	1	
		(Power Supply Section)		
		Transistors		
Q1001,1002	2SD636		2	(R,S,T)
		Combination Parts (Transistor & Resistor)		
QR1001	DTC144A		1	or UN1213
		Diodes		
D1001	MA4039	Zener		
D1002-1004	MA165		3	
D1005,1006	10E1		2	
		Resistors		
R1001,1002	ERDS2TJ103	10k	2	
R1003	ERDS2TJ123	12k	1	
R1004	ERDS2TJ101	100	1	
R1005	EROS2CKG3001	Metal 1/2W 3k	1	
R1006	EROS2CKG3901	Metal 1/2W 3.9k	1	
R1007	ERDS2TJ103	10k	1	
R1008	EROS2CKG1800	Metal 1/2W 180	1	
		Variable Resistor		
VR1003	EVN61AA00B23	2k	1	
		Capacitors		
C1001	ECEA1VU101	Electrolytic 35V 100	1	
C1002	ECEA0JK470	Electrolytic 6.3V 47	1	
C1003	ECKF1H102KB	Ceramic 50V 1000P	1	
C1004	ECEA1CK330	Electrolytic 16V 33	1	
C1005	ECKF1H102KB	Ceramic 50V 1000P	1	
		Connectors		
P1001	VJP1145	8P	1	
P1002,1003	VJP1230	3P	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		(Servo Section)		
		Integrated Circuits		
IC2001	AN6359		1	
IC2002	MN6168VIF		1	
IC2003	AN6356N		1	
IC2004	AN3821K		1	
IC2005	AN6562		1	or uPC358C
IC2006	AN6387		1	
IC2007	BA236		1	
IC2008	AN3717K		1	
		Transistors		
Q2001,2002	2SB641		2	
Q2003	2SD973		1	
Q2004-2008	2SD636		5	
Q2009	2SD973		1	
Q2011	2SD973		1	
		Combination Parts (Transistor & Resistor)		
QR2001	DTA144A		1	or UN1113
QR2002-2005	DTC144A		4	or UN1213
QR2007	DTC144A		1	or UN1213
QR2008	DTA144A		1	or UN1113
QR2009-2011	DTC144A		3	or UN1213
QR2012	DTA144A		1	or UN1113
		Diodes		
D2001-2012	MA165		12	
D2013	MA154WK		1	
D2014-2016	MA165		3	
D2019-2022	MA165		4	
D2023	DAP201		1	
		Resistors		
R2001	ERDS2TJ153	15k	1	
R2002	ERDS2TJ223	22k	1	
R2003	ERDS2TJ683	68k	1	
R2004,2005	ERDS2TJ563	56k	2	
R2006	ERDS2TJ102	1k	1	
R2007,2008	ERDS2TJ272	2.7k	2	
R2009	ERDS2TJ822	8.2k	1	
R2010,2011	ERDS2TJ154	150k	2	
R2012	ERDS2TJ563	56k	1	
R2013	ERDS2TJ822	8.2k	1	
R2014	ERDS2TJ274	270k	1	
R2015	ERDS2TJ222	2.2k	1	
R2016	ERDS2TJ104	100k	1	
R2017	ERDS2TJ181	180	1	
R2018	ERDS2TJ223	22k	1	
R2019	ERDS2TJ153	15k	1	
R2020	ERDS2TJ333	33k	1	
R2021	ERDS2TJ562	5.6k	1	
R2022	ERDS2TJ563	56k	1	
R2023,2024	ERDS2TJ154	150k	2	
R2025	ERDS2TJ124	120k	1	
R2026	ERDS2TJ333	33k	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R2027	ERDS2TJ332	3.3k	1	
R2028	ERDS2TJ332	3.3k	1	
R2029	ERDS2TJ272	2.7k	1	
R2030	ERDS2TJ563	56k	1	
R2031	ERDS2TJ562	5.6k	1	
R2032	ERDS2TJ105	1M	1	
R2033	ERDS2TJ104	100k	1	
R2034	ERDS2TJ273	27k	1	
R2035	EROS2CKG1802	Metal 1/2W 18k	1	
R2036,2037	ERDS2TJ103	10k	2	
R2038	ERDS2TJ333	33k	1	
R2039	ERDS2TJ472	4.7k	1	
R2040	ERDS2TJ103	10k	1	
R2041	ERDS2TJ333	33k	1	
R2042	ERDS2TJ124	120k	1	
R2043	ERDS2TJ103	10k	1	
R2044	ERDS2TJ473	47k	1	
R2045	ERDS2TJ563	56k	1	
R2046	ERDS2TJ473	47k	1	
R2047	ERDS2TJ333	33k	1	
R2048	ERDS2TJ273	27k	1	
R2049	ERDS2TJ103	10k	1	
R2050	ERDS2TJ183	18k	1	
R2051	ERDS2TJ103	10k	1	
R2052	ERDS2TJ333	33k	1	
R2053	ERDS2TJ223	22k	1	
R2054	ERDS2TJ822	8.2k	1	
R2055	ERDS2TJ223	22k	1	
R2056	ERDS2TJ152	1.5k	1	
R2057	ERDS2TJ682	6.8k	1	
R2058	ERDS2TJ152	1.5k	1	
R2059	ERDS2TJ683	68k	1	
R2060	ERDS2TJ102	1k	1	
R2061	ERDS2TJ332	3.3k	1	
R2062	ERDS2TJ560	56	1	
R2063	ERDS2TJ222	2.2k	1	
R2064	ERDS2TJ124	120k	1	
R2065	ERDS2TJ224	220k	1	
R2066	ERX12ANJ1R0	Metal 1/2W 1.0	1	
R2067	ERDS2TJ102	1k	1	
R2068	ERDS2TJ563	56k	1	
R2069	ERDS2TJ822	8.2k	1	
R2070	ERDS2TJ103	10k	1	
R2071,2072	ERDS2TJ224	220k	2	
R2073	ERDS2TJ104	100k	1	
R2074-2076	ERDS2TJ150	15	3	
R2078	ERX12SJR56P	Metal 1/2W 0.56	1	
R2079	ERDS2TJ124	120k	1	
R2080	ERDS2TJ153	15k	1	
R2081	ERDS2TJ154	150k	1	
R2082	ERDS2TJ104	100k	1	
R2083	ERDS2TJ563	56k	1	
R2084	EROS2CKG6202	Metal 1/2W 62k	1	
R2085	ERDS2TJ104	100k	1	
R2086	ERDS2TJ223	22k	1	
R2087	ERDS2TJ224	220k	1	
R2088	ERDS2TJ334	330k	1	
R2089	ERDS2TJ152	1.5k	1	
R2090	ERDS2TJ682	6.8k	1	
R2091	ERDS2TJ102	1k	1	
R2093	ERDS2TJ181	180	1	
R2094	ERDS2TJ473	47k	1	
R2095	EROS2CKG1803	Metal 1/2W 180k	1	
R2096,2097	ERDS2TJ333	33k	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R2098	ERDS2TJ271	270	1	
R2099	ERDS2TJ102	1k	1	
R2100	ERDS2TJ103	10k	1	
R2101	ERDS2TJ333	33k	1	
R2102	ERDS2TJ332	3.3k	1	
R2103	ERDS2TJ563	56k	1	
R2104	ERDS2TJ472	4.7k	1	
R2105	ERDS2TJ562	5.6k	1	
		Variable Resistors		
VR2001	EVN61AA00B54	50k	1	
VR2002	EVN61AA00B15	100k	1	
VR2010	EVTK4CA00B15	100k	1	
VR2011	EVN61AA00B15	100k	1	
VR2013	EVMK3GA00B23	2k	1	
		Capacitors		
C2001	ECEA1HK010	Electrolytic 50V 1	1	
C2002	ECEA1HKNR33	Electrolytic 50V 0.33	1	
C2003	ECEA1HK010	Electrolytic 50V 1	1	
C2004	ECQV1H104JZ	Mylar 50V 0.1	1	
C2005	ECKF1H103KB	Ceramic 50V 0.01	1	
C2006	VCYF1C102MR	Semiconductor 16V 1000P	1	
C2007	VCYF1C562MR	Semiconductor 16V 5600P	1	
C2008	ECEA1HK0R1	Electrolytic 50V 0.1	1	
C2009	ECEA0JK101	Electrolytic 6.3V 100	1	
C2010	ECQV1H683JZ	Mylar 50V 0.068	1	
C2011	ECQV1H334JZ	Electrolytic 50V 0.33	1	
C2012	ECEA0JK470	Electrolytic 6.3V 47	1	
C2013	ECQB1H182JH	Mylar 50V 1800P	1	or ECQV1H223JZ8
C2014,2015	ECEA1CK100	Electrolytic 16V 10	2	
C2016	ECEA0JK470	Electrolytic 6.3V 47	1	
C2017	ECEA10Z47	Electrolytic 10V 47	1	
C2018,2019	ECEA1HK010	Electrolytic 50V 1	2	
C2020	VCYF1C562MR	Semiconductor 16V 5600P	1	
C2021	ECQB1H223JH	Mylar 50V 0.022	1	or ECQV1H223JZ8
C2022	ECEA1HK0R1	Electrolytic 50V 0.1	1	
C2023	ECEA0JK470	Electrolytic 6.3V 47	1	
C2024	ECEA1HKR47	Electrolytic 50V 0.47	1	
C2025	ECEA1CK470	Electrolytic 16V 47	1	
C2026	ECEA1HKN010	Electrolytic 50V 1	1	
C2027	ECEA1HK010	Electrolytic 50V 1	1	
C2028	ECKF1H152KB	Ceramic 50V 1500P	1	
C2029	ECEA0JK470	Electrolytic 6.3V 47	1	
C2030	ECEA1CK100	Electrolytic 16V 10	1	
C2031	ECQV1H394JZ	Electrolytic 50V 0.39	1	
C2032	ECQV1H683JZ	Mylar 50V 0.068	1	
C2033	ECQB1H472JH	Mylar 50V 4700P	1	or ECQV1H472JZ8
C2034	VCYF1C104MR	Semiconductor 16V 0.1	1	
C2035	ECQV1H104JZ	Mylar 50V 0.1	1	
C2036	ECEA1HK010	Electrolytic 50V 1	1	
C2037	ECEA1HK0R1	Electrolytic 50V 0.1	1	
C2038	ECEA0JK470	Electrolytic 6.3V 47	1	
C2039-2041	ECEA1HKN2R2	Electrolytic 50V 2.2	3	
C2042-2044	ECQB1H822KH	Mylar 50V 8200P	3	
C2045	ECKF1H472KB	Ceramic 50V 4700P	1	
C2046	ECKF1H682KB	Ceramic 50V 6800P	1	
C2047	ECKF1H222KB	Ceramic 50V 2200P	1	
C2048	ECEA1CK470	Electrolytic 16V 47	1	
C2049-2051	ECEA1HKN2R2	Electrolytic 50V 2.2	3	
C2052	ECEA1EK3R3	Electrolytic 25V 3.3	1	
C2053	VCYF1C123MR	Semiconductor 16V 0.012	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C2054	ECEA50ZR22	Electrolytic 50V 0.22	1	
C2055	ECQV1H274JZ	Electrolytic 50V 0.27	1	
C2056	VCYF1C473MR	Semiconductor 16V 0.047	1	
C2057	ECKF1H102KB	Ceramic 50V 1000P	1	
C2058,2059	ECEA1HK010	Electrolytic 50V 1	2	
C2060	ECEA0JK470	Electrolytic 6.3V 47	1	
C2061,2062	ECEA1HK010	Electrolytic 50V 1	2	
C2063,2064	ECKF1H103KB	Ceramic 50V 0.01	2	
C2065-2067	ECQB1H332KH	Mylar 50V 3300P	3	or ECQV1H332KZ
C2069	ECQV1H474JZ	Mylar 50V 0.47	1	
C2070,2071	ECKF1H222KB	Ceramic 50V 2200P	2	
C2072	ECEA1CK470	Electrolytic 16V 47	1	
C2073	ECEA0JK101	Electrolytic 6.3V 100	1	
C2074	ECQB1H332KH	Mylar 50V 3300P	1	or ECQV1H332KZ8
C2075	ECQV1H104JZ	Mylar 50V 0.1	1	
C2076	ECEA1CK470	Electrolytic 16V 47	1	
C2077	ECEA0JK470	Electrolytic 6.3V 47	1	
		Coil		
L2001	VLQEL05F101K	100uH	1	
		Combination Circuits		
		(Resistor & Capacitor)		
CR2001	EXED223M222C	0.022 2.2k	1	
CR2002	EXED472M104C	4700P 100k	1	
		Fuse		
F2001	VSF0035		1	⚠
		Conectors		
P2001	VJP1237	10P	1	
P2002	VJP1235	8P	1	
		(Luminance Section)		
		Transistors		
Q3001	2SD636		1	
Q3002,3003	2SB641		2	
Q3004	2SB561		1	
Q3005	2SB641		1	
		Combination Parts		
		(Transistor & Resistor)		
QR3001	DTC124A		1	or UN1212
		Diodes		
D3001	MA165		1	
D3003,3004	MA165		2	
D3006-3011	MA165		6	
		Resistors		
R3001	ERDS2TJ102	1k	1	
R3002	ERDS2TJ271	270	1	
R3003	ERDS2TJ562	5.6k	1	
R3004	ERDS2TJ822	8.2k	1	
R3005	ERDS2TJ102	1k	1	
R3006	ERDS2TJ681	680	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R3007,3008	ERDS2TJ562	5.6k	2	
R3009	ERDS2TJ103	10k	1	
R3010,3011	ERDS2TJ102	1k	2	
R3013-3015	ERDS2TJ750	75	3	
R3016	ERDS2TJ561	560	1	
R3017	ERDS2TJ750	75	1	
R3018	ERDS2TJ334	330k	1	
R3019	ERDS2TJ121	120	1	
		Variable Resistor		
VR3051	EVN67AA00B22	200	1	
		Capacitors		
C3001	ECKF1H103KB	Ceramic 50V 0.01	1	
C3002	ECEA0JU471	Electrolytic 6.3V 470	1	
C3003	ECEA1CK470	Electrolytic 16V 47	1	
C3004	ECEA0JK470	Electrolytic 6.3V 47	1	
C3005-3008	ECQV1H104JZ	Mylar 50V 0.1	4	
C3009,3010	ECEA1CK100	Electrolytic 16V 10	2	
C3011	ECQB1H102JH	Mylar 50V 1000P	1	
		Coils		
L3001	VLQEL05F101K	100uH	1	
L3003	VTQ0045	100mH	1	
		Combination Circuit		
		(Capacitor & Resistor)		
CR3001	EXED103M821C	0.01 820	1	
		Switches		
S3001	VSS0114		1	
S3002	VSS0106		1	
		Connectors		
P3001	VJP1230	3P	1	
P3002	VJP1393	13P	1	
P3003	VJP1229	2P	1	
P3004	VJP1232	5P	1	
P3005	VJP1233	6P	1	
		(Audio Section)		
		Integrated Circuits		
IC4001	AN6262		1	
IC4101	BA6323		1	
		Transistor		
Q4001	2SD1330		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Combination Parts		
		(Transistor & Resistor)		
QR4001	DTA124A		1	or UN1112
		Diodes		
D4101,4102	MA165		2	
		Resistors		
R4001	ERDS2TJ100	10	1	
R4004	ERDS2TJ224	220k	1	
R4005	ERDS2TJ102	1k	1	
R4006	ERDS2TJ104	100k	1	
R4007	ERDS2TJ102	1k	1	
R4008	ERDS2TJ473	47k	1	
R4101	ERDS2TJ563	56k	1	
		Variable Resistors		
VR4001	EVN38CA00B13	1k	1	
VR4002	EVN38CA00B25	200k	1	
VR4505	EVN38CA00B14	10k	1	
VR4510	EVN3ACA00B15	100k	1	
		Capacitors		
C4001	ECEA1CK101	Electrolytic 16V 100	1	
C4002	ECEA1EKN3R3	Electrolytic 25V 3.3	1	
C4003	ECQB1H153JH	Mylar 50V 0.015	1	
C4004,4005	ECKF1H222KB	Ceramic 50V 2200P	2	
C4101	ECQB1H103JH	Mylar 50V 0.01	1	
C4102	ECQV1H104JZ	Mylar 50V 0.1	1	
C4103	ECEA0JK470	Electrolytic 6.3V 47	1	
		Switch		
S4001	ESD32210		1	
		Conectors		
P4001	VJP1232	5P	1	
P4003	VJP1233	6P	1	
P4004	VJP1229	2P	1	
		(System Control Section)		
		Integrated Circuits		
IC6001	MN15342VGL		1	
IC6002	uPD4503BC		1	or MN4503B
IC6003	AN6914		1	or uPC393C
IC6004	BA6238		1	
		Transistors		
Q6001,6002	2SD636		2	(R,S)
Q6003	2SB641		1	
Q6005,6006	2SB819		2	(R)
Q6007	2SB641		1	NV-870B

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Combination Parts		
		(Transistor & Resistor)		
QR6001-6003	DTC124A		3	or UN1212
QR6004	DTA124A		1	or UN1112
QR6005	DTC114A		1	or UN1211
QR6006	DTC114A		1	or UN1211
QR6007	DTC144A		1	or UN1213
QR6008	DTA144A		1	or UN1113
		Diodes		
D6001-6007	MA165		7	
D6009	MA165		1	
D6010	RD6.8EB	Zener	1	
D6011,6012	MA165		2	
		Resistors		
R6001	ERDS2TJ333	33k	1	
R6002	ERDS2TJ103	10k	1	
R6003	ERDS2TJ222	2.2k	1	
R6004	ERDS2TJ153	15k	1	
R6005	ERDS2TJ473	47k	1	
R6006	ERDS2TJ683	68k	1	
R6007	ERDS2TJ103	10k	1	
R6008	ERDS2TJ102	1k	1	
R6009,6010	ERDS2TJ103	10k	2	
R6011	ERDS2TJ682	6.8k	1	
R6012	ERDS2TJ563	56k	1	
R6013	ERDS2TJ152	1.5k	1	
R6014	ERDS2TJ105	1M	1	
R6015	ERDS2TJ103	10k	1	
R6016	ERDS2TJ474	470k	1	
R6017	EROS2CKG1542	Metal 1/2W 15.4k	1	
R6018	EROS2CKG1212	Metal 1/2W 12.1k	1	
R6019	EROS2CKG2261	Metal 1/2W 22.6k	1	
R6020,6021	ERDS2TJ103	10k	2	
R6022,6023	ERDS2TJ104	100k	2	
R6024	ERDS2TJ103	10k	1	
R6025,6026	ERDS2TJ104	100k	2	
R6027	ERDS2TJ332	3.3k	1	
R6028	ERQ14AJ180P	Metal 18	1	⚠
R6030-6032	ERDS2TJ222	2.2k	3	
R6033	ERDS2TJ681	680	1	
R6034	ERDS2TJ332	3.3k	1	
R6035	ERDS2TJ681	680	1	
R6036,6037	ERDS2TJ103	10k	2	
R6041	ERDS2TJ332	3.3k	1	
R6042	ERDS2TJ682	6.8k	1	
R6043	ERDS2TJ103	10k	1	
R6044	ERDS2TJ152	1.5k	1	
R6045	ERDS2TJ332	3.3k	1	NV-870B
R6046	ERDS2TJ223	22k	1	NV-870B
R6047-6049	ERDS2TJ333	33k	3	
R6050	ERDS2TJ391	390	1	
R6051-6053	ERDS2TJ563	56k	3	
R6054,6055	ERDS2TJ473	47k	2	
R6056	ERDS2TJ333	33k	1	
		Capacitors		
C6001	ECQM1H682JV	Mylar 50V 6800P	1	
C6002	ECQM1H184JV	Mylar 50V 0.18	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C6003	ECKF1H103KB	Ceramic 50V 0.01	1	
C6004	ECEA1HKN010J	Electrolytic 50V 1	1	
C6005	ECEA0JK220	Electrolytic 6.3V 22	1	
C6006	ECQV1H104JZ	Mylar 50V 0.1	1	
C6007	ECQV1H223JZ	Mylar 50V 0.022	1	
C6008	ECEA1HK010	Electrolytic 50V 1	1	
C6009	ECKF1H681KB	Ceramic 50V 680P	1	
C6010	ECKF1H221KB	Ceramic 50V 220P	1	
C6011	ECEA1HK0R1	Electrolytic 50V 0.1	1	
C6012	ECEA0JK101	Electrolytic 6.3V 100	1	
C6013	ECEA1HK100	Electrolytic 50V 10	1	
C6014,6015	ECCF1H330KC	Ceramic 50V 33P	2	
C6016	ECKF1H681KB	Ceramic 50V 680P	1	
C6017	ECEA1HKN2R2	Electrolytic 50V 2.2	1	
C6018	ECKF1H103KB	Ceramic 50V 0.01	1	
C6019	ECEA1HK0R1	Electrolytic 50V 0.1	1	
		Crystal Oscillator		
X6001	VSX0082		1	
		Connectors		
P6002	VJP1230	3P	1	
P6003	VJP1237	10P	1	
P6004	VJP1234	8P	1	
P6005	VJP1235	8P	1	
		Miscellaneous		
	VMC0075	Holder (A)	1	(For IC2004)
	VMC0105	Holder (B)	1	(For F2001)
	VSC1215	Heat Sink	1	(For IC2004)
	XSN26+4	Screw	1	(For IC2004)
	VJF0227	Luminance,Chrominance	1	
		Pack Angle		
	VEJ0384	Rear Jack Base	1	
	VJH0326	Rear Jack Board	1	
	VEP04106A/B	FM Audio P.C.Board Unit	1	
		P.C.B. Ass'y		
IC4507,4508	VEFA007		2	
		Integlated Circuits		
IC4501	uPD4052		1	or HD14052, MN4052
IC4502	AN6558		1	
IC4503	TA7325P		1	
IC4504,4505	uPC4558C		2	or AN6552
IC4506	BA7055		1	
IC4509	uPC1531HA		1	
IC4510	AN3312		1	
IC4511	AN6914		1	
IC4512,4513	VCR0112		2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Transistors		
Q4501,4502	2SD1330		2	or 2SD655
Q4503,4504	2SD661		2	(S,T)
Q4505	2SD1330		1	or 2SD655
Q4507	2SD661		1	(S,T)
Q4508,4509	2SB641		2	(Q,R)
Q4510-4517	2SD1330		8	or 2SD655
Q4518	2SD661		1	(S,T)
Q4519	2SB641		1	
Q4520,4521	2SD1330		2	or 2SD655
Q4522	2SB641		1	
Q4523	2SC2206		1	
Q4524	2SD636		1	
Q4525	2SB643		1	
Q4526	2SD638		1	
Q4527	2SD1330		1	or 2SD655
Q4528,4529	2SD638		1	
Q4530	2SC2206		1	
Q4531	2SB641		1	
Q4532	2SC2206		1	
Q4533	2SD636		1	
Q4537,4538	2SD1330		2	or 2SD655
Q4539	2SB641		1	
		Combination Circuis (Transistor & Resistor)		
QR4501	DTC114A		1	or UN1211
QR4502	DTA124A		1	or UN1112
QR4503,4504	DTC124A		2	or UN1212
QR4505	DTC114A		1	or UN1211
		Diodes		
D4501	MA165		1	
D4503	RD15JB	Zener	1	
D4504,4505	MA165		2	
D4506	MA154WK		1	
D4507,4508	MA165		2	
D4510-4514	MA165		5	
		Resistors		
R4501	ERDS2TJ333	33k	1	
R4502	ERDS2TJ183	18k	1	
R4503	ERDS2TJ333	33k	1	
R4504	ERDS2TJ183	18k	1	
R4505,4506	ERDS2TJ473	47k	2	
R4507	ERDS2TJ333	33k	1	
R4508	ERDS2TJ183	18k	1	
R4509	ERDS2TJ333	33k	1	
R4510	ERDS2TJ183	18k	1	
R4511,4512	ERDS2TJ474	470k	2	
R4513,4514	ERDS2TJ472	4.7k	2	
R4515,4516	ERDS2TJ474	470k	2	
R4517,4518	ERDS2TJ684	680k	2	
R4519,4520	ERDS2TJ474	470k	2	
R4521	ERDS2TJ273	27k	1	
R4522	ERDS2TJ473	47k	1	
R4523,4524	ERDS2TJ823	82k	2	
R4525	ERDS2TJ102	1k	1	
R4526	ERDS2TJ332	3.3k	1	
R4527	ERDS2TJ562	5.6k	1	
R4528	ERDS2TJ394	390k	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R4529	ERDS2TJ471	470	1	
R4530	ERDS2TJ332	3.3k	1	
R4531	ERDS2TJ181	180	1	
R4532	ERDS2TJ394	390k	1	
R4533	ERDS2TJ471	470	1	
R4534	ERDS2TJ332	3.3k	1	
R4535	ERDS2TJ181	180	1	
R4536	ERDS2TJ391	390	1	
R4537,4538	ERDS2TJ223	22k	2	
R4539,4540	ERDS2TJ102	1k	2	
R4541,4542	ERDS2TJ223	22k	2	
R4543	ERDS2TJ102	1k	1	
R4544	ERDS2TJ391	390	1	
R4545-4548	ERDS2TJ223	22k	4	
R4550	ERDS2TJ105	1M	1	
R4551,4552	ERDS2TJ104	100k	2	
R4553,4554	ERDS2TJ103	10k	2	
R4555,4556	ERDS2TJ224	220k	2	
R4557,4558	ERDS2TJ223	22k	2	
R4559,4560	ERDS2TJ102	1k	2	
R4563	ERDS2TJ332	3.3k	1	
R4564	ERDS2TJ562	5.6k	1	
R4565	ERDS2TJ471	470	1	
R4566	ERDS2TJ473	47k	1	
R4567	ERDS2TJ333	33k	1	
R4568	ERDS2TJ104	100k	1	
R4569	ERDS2TJ333	33k	1	
R4570	ERDS2TJ104	100k	1	
R4571	ERDS2TJ473	47k	1	
R4572	ERDS2TJ471	470	1	
R4573,4574	ERDS2TJ474	470k	2	
R4575	ERDS2TJ272	2.7k	1	
R4576-4579	ERDS2TJ101	100	4	
R4580	ERDS2TJ103	10k	1	
R4581	ERDS2TJ102	1k	1	
R4582,4583	ERDS2TJ332	3.3k	2	
R4584,4585	ERDS2TJ102	1k	2	
R4586	ERDS2TJ224	220k	1	
R4587	ERDS2TJ822	8.2k	1	
R4588	ERDS2TJ223	22k	1	
R4589	ERDS2TJ102	1k	1	
R4590,4591	ERDS2TJ471	470	2	
R4592	ERDS2TJ223	22k	1	
R4593	ERD25FJ680	68	1	
R4594	ERDS2TJ103	10k	1	
R4602	ERDS2TJ472	4.7k	1	
R4603	ERDS2TJ471	470	1	
R4605	EROS2CKG1802	Metal 1/2W 18k	1	
R4606	EROS2CKG6801	Metal 1/2W 6.8k	1	
R4607	ERDS2TJ682	6.8k	1	
R4608	EROS2CKG1101	Metal 1/2W 1.1k	1	
R4609	EROS2CKG1801	Metal 1/2W 1.8k	1	
R4610	ERDS2TJ332	3.3k	1	
R4611	ERDS2TJ154	150k	1	
R4612	ERDS2TJ821	820	1	
R4613	ERDS2TJ561	560	1	
R4614,4615	ERDS2TJ272	2.7k	2	
R4616	ERDS2TJ182	1.8k	1	
R4617	ERDS2TJ473	47k	1	
R4618	ERDS2TJ472	4.7k	1	
R4619	ERDS2TJ471	470	1	
R4621	EROS2CKG1802	Metal 1/2W 18k	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R4622	EROS2CKG6801	Metal 1/2W 6.8k	1	
R4624	ERDS2TJ682	6.8k	1	
R4625	ERDS2TJ683	68k	1	
R4627	ERDS2TJ154	150k	1	
R4628	EROS2CKG1101	Metal 1/2W 1.1k	1	
R4629	ERDS2TJ332	3.3k	1	
R4630	EROS2CKG1801	Metal 1/2W 1.8k	1	
R4631	ERDS2TJ222	2.2k	1	
R4632	ERDS2TJ182	1.8k	1	
R4634	ERDS2TJ102	1k	1	
R4635	ERDS2TJ272	2.7k	1	
R4637	ERDS2TJ332	3.3k	1	
R4638	ERDS2TJ562	5.6k	1	
R4639	ERDS2TJ102	1k	1	
R4640	ERDS2TJ101	100	1	
R4641	ERDS2TJ183	18k	1	
R4642	ERDS2TJ222	2.2k	1	
R4643	ERDS2TJ102	1k	1	
R4644,4645	ERDS2TJ392	3.9k	2	
R4646	ERDS2TJ102	1k	1	
R4647,4648	ERDS2TJ220	22	2	
R4649	ERDS2TJ152	1.5k	1	
R4650,4651	ERDS2TJ332	3.3k	2	
R4652	ERDS2TJ223	22k	1	
R4653	ERDS2TJ100	10	1	
R4654	ERDS2TJ152	1.5k	1	
R4655	ERDS2TJ150	15	1	
R4656	ERDS2TJ393	39k	1	
R4657	ERDS2TJ152	1.5k	1	
R4658	ERDS2TJ150	15	1	
R4659	ERDS2TJ393	39k	1	
R4660	ERDS2TJ681	680	1	
R4662	ERDS2TJ152	1.5k	1	
R4663	ERDS2TJ224	220k	1	
R4664	ERDS2TJ222	2.2k	1	
R4665	ERDS2TJ223	22k	1	
R4666	ERDS2TJ473	47k	1	
R4667	ERDS2TJ472	4.7k	1	
R4668	ERDS2TJ331	330	1	
R4669	ERDS2TJ332	3.3k	1	
R4670	ERDS2TJ222	2.2k	1	
R4671	ERDS2TJ223	22k	1	
R4672	ERDS2TJ224	220k	1	
R4673	ERDS2TJ102	1k	1	
R4674	ERDS2TJ222	2.2k	1	
R4677	ERDS2TJ394	390k	1	
R4678	ERDS2TJ122	1.2k	1	
R4679	ERDS2TJ103	10k	1	
R4681	ERDS2TJ104	100k	1	
R4683	ERDS2TJ824	820k	1	
R4684	ERDS2TJ105	1M	1	
R4685	ERDS2TJ102	1k	1	
R4686	ERDS2TJ473	47k	1	
R4687	ERDS2TJ100	10	1	
R4688,4689	ERDS2TJ103	10k	1	
R4690	ERDS2TJ333	33k	1	
R4691	ERDS2TJ101	100	1	NV-870E/B
R4692	ERDS2TJ472	4.7k	1	
R4693,4694	ERDS2TJ103	10k	2	
R4695,4696	ERDS2TJ471	470	2	
R4697	ERDS2TJ223	22k	1	
R4698	ERDS2TJ681	680	1	
R4699,4700	ERDS2TJ330	33	2	
R4701	ERDS2TJ223	22k	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R4702	ERDS2TJ102	1k	1	
R4703	ERDS2TJ154	150k	1	
R4705	ERDS2TJ472	4.7k	1	
R4706	EROS2CKG2401	Metal 1/2W 2.4k	1	
R4708	ERDS2TJ472	4.7k	1	
R4709	EROS2CKG2401	Metal 1/2W 2.4k	1	
		Variable Resistors		
VR4503	EVN61AA00B53	5k	1	
VR4504	EVN38CA00B23	2k	1	
VR4508	EVN38CA00B23	2k	1	
VR4511	EVM38GA00B55	500k	1	
		Capacitors		
C4501	ECEA1AU221	Electrolytic 10V 220	1	
C4502	ECEA1CK470	Electrolytic 16V 47	1	
C4503	ECEA1HK010	Electrolytic 50V 1	1	
C4504-4507	ECEA1CK100	Electrolytic 16V 10	4	
C4508,4509	ECEA1CU221	Electrolytic 16V 220	2	
C4510	ECEA1HK010	Electrolytic 50V 1	1	
C4511,4512	ECEA1CK100	Electrolytic 16V 10	2	
C4513	ECEA1CK101	Electrolytic 16V 100	1	
C4514,4515	ECEA1CK100	Electrolytic 16V 10	2	
C4516-4518	ECEA1HK010	Electrolytic 50V 1	3	
C4519	ECEA0JK101	Electrolytic 6.3V 100	1	
C4520,4521	ECQV1H473JZ	Mylar 50V 0.047	2	
C4522	ECEA1CK470	Electrolytic 16V 47	1	
C4523	ECEA1CK100	Electrolytic 16V 10	1	
C4524-4526	ECEA1HK010	Electrolytic 50V 1	3	
C4527	ECEA1CK100	Electrolytic 16V 10	1	
C4528	ECEA1HK010	Electrolytic 50V 1	1	
C4529	ECEA1CK100	Electrolytic 16V 10	1	
C4530-4533	ECEA1AK470	Electrolytic 10V 47	4	
C4534-4536	ECEA1AK100	Electrolytic 10V 10	3	
C4537,4538	ECEA1AK470	Electrolytic 10V 47	2	
C4539	ECEA1AK220	Electrolytic 10V 22	1	
C4540	ECEA1CK100	Electrolytic 16V 10	1	
C4541	ECEA1HK010	Electrolytic 50V 1	1	
C4542	ECEA1CK100	Electrolytic 16V 10	1	
C4543	ECQV1H104JZ	Mylar 50V 0.1	1	
C4544	ECEA1CK470	Electrolytic 16V 47	1	
C4545	ECEA1HKR47	Electrolytic 50V 0.47	1	
C4551	ECEA25Z3R3	Electrolytic 25V 3.3	1	
C4552	ECQV1H473JZ	Mylar 50V 0.047	1	
C4553	ECEA10Z22	Electrolytic 10V 22	1	
C4554	ECEA6Z47	Electrolytic 6.3V 47	1	
C4555	ECEA0JK470	Electrolytic 6.3V 47	1	
C4556	ECQB1H393JH	Mylar 50V 0.039	1	or ECQV1H393JZ
C4557	ECEA0JK470	Electrolytic 6.3V 47	1	
C4559	ECEA1CK100	Electrolytic 16V 10	1	
C4561	ECKF1H561KB	Ceramic 50V 560P	1	
C4562	ECEA0JK220	Electrolytic 6.3V 22	1	
C4563	ECKF1H331KB	Ceramic 50V 330P	1	
C4565	ECEA0JK470	Electrolytic 6.3V 47	1	
C4566	ECEA1CK100	Electrolytic 16V 10	1	
C4567	ECEA0JK470	Electrolytic 6.3V 47	1	
C4568	ECEA1CK100	Electrolytic 16V 10	1	
C4569	ECQB1H103JH	Mylar 50V 0.01	1	or ECQV1H103JZ
C4570	ECEA1EK3R3	Electrolytic 25V 3.3	1	
C4571	ECQB1H332JH	Mylar 50V 3300P	1	or ECQV1H332JZ
C4572	ECEA0JK470	Electrolytic 6.3V 47	1	
C4573,4574	ECEA1EK3R3	Electrolytic 25V 3.3	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C4575	ECKF1H103KB	Ceramic 50V 0.01	1	
C4576	ECCF1H220JC	Ceramic 50V 22P	1	
C4577	ECCF1H680JC	Ceramic 50V 68P	1	
C4578	ECQB1H332JH	Mylar 50V 3300P	1	or ECQV1H332JZ
C4579	ECEA25Z3R3	Electrolytic 25V 3.3	1	
C4580	ECQV1H473JZ	Mylar 50V 0.047	1	
C4581	ECEA10Z22	Electrolytic 10V 22	1	
C4582	ECEA6Z47	Electrolytic 6.3V 47	1	
C4583	ECEA0JK470	Electrolytic 6.3V 47	1	
C4584	ECQB1H393JH	Mylar 50V 0.039	1	or ECQV1H393JZ
C4585	ECEA0JK470	Electrolytic 6.3V 47	1	
C4586	ECEA0JK220	Electrolytic 6.3V 22	1	
C4587	ECEA1CK100	Electrolytic 16V 10	1	
C4588	ECQB1H153JH	Mylar 50V 0.015	1	or ECQV1H153JZ
C4589	ECEA0JK220	Electrolytic 6.3V 22	1	
C4590	ECKF1H561KB	Ceramic 50V 560P	1	
C4591	ECEA0JK470	Electrolytic 6.3V 47	1	
C4592	ECKF1H331KB	Ceramic 50V 330P	1	
C4594	ECEA0JK470	Electrolytic 6.3V 47	1	
C4595	ECEA1CK100	Electrolytic 16V 10	1	
C4596	ECEA0JK470	Electrolytic 6.3V 47	1	
C4597	ECQB1H103JH	Mylar 50V 0.01	1	or ECQV1H103JZ
C4598	ECEA1EK3R3	Electrolytic 25V 3.3	1	
C4599	ECEA0JK470	Electrolytic 6.3V 47	1	
C4601	ECEA1EK3R3	Electrolytic 25V 3.3	1	
C4603	ECKF1H103KB	Ceramic 50V 0.01	1	
C4604	ECEA1CK330	Electrolytic 16V 33	1	
C4605-4607	ECKF1H103KB	Ceramic 50V 0.01	3	
C4608	VCYF1C104MR	Semiconductor 16V 0.1	1	
C4609	ECEA1CK100	Electrolytic 16V 10	1	
C4610	ECEA1HK010	Electrolytic 50V 1	1	
C4611,4612	ECKF1H103KB	Ceramic 50V 0.01	2	
C4613	ECEA1HK010	Electrolytic 50V 1	1	
C4614	VCYF1C104MR	Semiconductor 16V 0.1	1	
C4615	ECEA0JK330	Electrolytic 6.3V 47	1	
C4616	ECEA1CK100	Electrolytic 16V 10	1	
C4617,4618	ECKF1H103KB	Ceramic 50V 0.01	2	
C4619	ECEA1CK100	Electrolytic 16V 10	1	
C4620	ECEA0JK330	Electrolytic 6.3V 47	1	
C4621	VCYF1C104MR	Semiconductor 16V 0.1	1	
C4622	ECEA1HK010	Electrolytic 50V 1	1	
C4623-4627	ECKF1H103KB	Ceramic 50V 0.01	5	
C4628	ECEA1HKR33	Electrolytic 50V 0.33	1	
C4629	ECQV1H473JZ	Mylar 50V 0.047	1	
C4630	ECKF1H103KB	Ceramic 50V 0.01	1	
C4631	ECEA1AU221	Electrolytic 10V 220	1	
C4632,4633	ECEA0JK470	Electrolytic 6.3V 47	2	
C4634	ECEA1CK100	Electrolytic 16V 10	1	
C4635	ECEA1AK330	Electrolytic 10V 33	1	
C4636	ECCF1H470JC	Ceramic 50V 47P	1	
C4637,4638	ECKF1H151KB	Ceramic 50V 150P	2	
C4639	ECEA1EK3R3	Electrolytic 25V 3.3	1	
C4640,4641	ECKF1H103KB	Ceramic 50V 0.01	2	
C4642	ECEA1CK100	Electrolytic 16V 10	1	
C4643,4644	ECEA10Z100	Electrolytic 10V 100	2	
C4645	ECCF1H050DC	Ceramic 50V 5P	1	
C4646	ECEA0JK101	Electrolytic 6.3V 100	1	
C4647	ECEA1AK470	Electrolytic 10V 47	1	
C4648	ECEA1CK100	Electrolytic 16V 10	1	
C4649	ECEA1AK220	Electrolytic 10V 22	1	
C4650	ECEA1CK100	Electrolytic 16V 10	1	
C4651	ECEA1AK470	Electrolytic 10V 47	1	
C4652	ECEA1CK100	Electrolytic 16V 10	1	
C4653	ECEA1AK220	Electrolytic 10V 22	1	
C4654	ECEA1AK100	Electrolytic 16V 10	1	
C4655	ECKF1H121KB	Ceramic 50V 120P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C4656	ECCF1H680JC	Ceramic 50V 68P	1	
		Coils		
L4501	VLQEL05F121K	120uH	1	
L4502-4506	VLQEL05F101K	100uH	5	
L4507,4508	VLQEL05F2R2K	2.3uH	2	
L4509-4511	VLQEL05F101K	100uH	3	
L4512	VLQEL05F221K	220uH	1	
		Filters		
FL4501,4502	VLF0341		2	
FL4503	VLF0317A		1	
FL4504	VLF0318A		1	
		Connectors		
P4501	VJP1231	4P	1	
P4502	VJP1233	6P	1	
P4503	VJP1231	4P	1	
P4504	VJP1233	6P	1	
P4506	VJP1233	6P	1	
P4507	VJP1232	5P	1	
P4508	VJP1237	10P	1	
		Miscellaneous		
	VSC1274	Sheild Case (Top)	1	
	VSC1275	Sheild Case (Main)	1	
	VSC1276	Sheild Case (Bottom)	1	
	VEP05060A	Head Amp P.C.Board Unit	1	
		Integlated Circuit		
IC5001	AN3310K		1	
		Transistors		
Q5001	2SC2206		1	(B,C)
Q5002	2SD636		1	(Q,R,S)
Q5003	2SB641		1	(Q,R,S)
Q5004	2SD636		1	(Q,R,S)
Q5005-5011	2SC2206		7	
		Combination Circuit		
		(Transistor & Resistor)		
QR5001	DTC124A		1	or UN1212
		Resistors		
R5001	ERDS2TJ820	82	1	
R5002	ERDS2TJ471	470	1	
R5003	ERDS2TJ271	270	1	
R5004,5005	ERDS2TJ681	680	2	
R5006	ERDS2TJ332	3.3k	1	
R5007	ERDS2TJ562	5.6k	1	
R5008	ERDS2TJ102	1k	1	
R5009	ERDS2TJ101	100	1	
R5010	ERDS2TJ681	680	1	
R5011	ERDS2TJ4R7	4.7	1	
R5012	ERDS2TJ182	1.8k	1	
R5013,5014	ERDS2TJ392	3.9k	2	
R5015	ERDS2TJ182	1.8k	1	
R5016,5017	ERDS2TJ390	39	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R5018	ERDS2TJ102	1k	1	
R5019	ERDS2TJ821	820	1	
R5020	EROS2CKG1502	Metal 1/2W 15k	1	
R5021	ERDS2TJ122	1.2k	1	
R5022	ERDS2TJ271	270	1	
R5023,5024	ERDS2TJ102	1k	2	
R5025	ERDS2TJ332	3.3k	1	
R5026	ERDS2TJ222	2.2k	1	
R5027	ERDS2TJ152	1.5k	1	
R5028-5031	ERDS2TJ821	820	4	
R5032-5035	ERDS2TJ102	1k	4	
R5036	ERDS2TJ103	10k	1	
R5037,5038	ERDS2TJ100	10	2	
R5039	ERDS2TJ183	18k	1	
R5041-5044	ERDS2TJ471	470	4	
R5045	ERDS2TJ334	330k	1	
		Variable Resistor		
VR3001	EVN38CA00B13	1k	1	
		Capacitors		
C5001	ECKF1H181KB	Ceramic 50V 180P	1	
C5002	ECKF1H103KB	Ceramic 50V 0.01	1	
C5003	ECCF1H060DC	Ceramic 50V 6P	1	
C5004-5006	ECKF1H103KB	Ceramic 50V 0.01	3	
C5007	ECQV1H104JZ	Mylar 50V 0.1	1	
C5008,5009	ECKF1H103KB	Ceramic 50V 0.01	2	
C5010	ECEA1AK470	Electrolytic 10V 47	1	
C5011	ECKF1H103KB	Ceramic 50V 0.01	1	
C5012	ECEA1HK010	Electrolytic 50V 1	1	
C5013	ECKF1H151KB	Ceramic 50V 150P	1	
C5014	ECKF1H103KB	Ceramic 50V 0.01	1	
C5015	ECKF1H681KB	Ceramic 50V 680P	1	
C5016	ECCF1H100DC	Ceramic 50V 10P	1	
C5017	ECCF1H080DC	Ceramic 50V 8P	1	
C5018	ECKF1H222KB	Ceramic 50V 2200P	1	
C5019	ECKF1H103KB	Ceramic 50V 0.01	1	
C5020	ECKF1H222KB	Ceramic 50V 2200P	1	
C5021	ECEA1AK470	Electrolytic 10V 47	1	
C5022	ECQV1H473JZ	Mylar 50V 0.047	1	
C5023,5024	ECKF1H103KB	Ceramic 50V 0.01	2	
C5025	ECEA1CK100	Electrolytic 16V 10	1	
C5026	ECCF1H150JC	Ceramic 50V 15P	1	
C5027	ECKF1H103KB	Ceramic 50V 0.01	1	
C5028	ECCF1H150JC	Ceramic 50V 15P	1	
C5029	ECKF1H103KB	Ceramic 50V 0.01	1	
C5030,5031	ECEA1CK100	Electrolytic 16V 10	2	
C5032	ECCF1H150JC	Ceramic 50V 15P	1	
C5033	ECKF1H103KB	Ceramic 50V 0.01	1	
C5034	ECCF1H150JC	Ceramic 50V 15P	1	
C5035	ECKF1H103KB	Ceramic 50V 0.01	1	
C5036	ECEA1CK100	Electrolytic 16V 10	1	
C5037	VCYF1C104MR	Semiconductor 16V 0.1	1	
C5038	ECKF1H103KB	Ceramic 50V 0.01	1	
C5039	ECCF1H820JC	Ceramic 50V 82P	1	
		Coils		
L5001-5004	VLQ0127	2.2uH	4	
L5005	VLQEL05F180K	18uH	1	
L5006	VLQEL05F330K	33uH	1	
L5007-5010	VLQEL05F101K	100uH	4	
L5011	VLQEL05F151K	150uH	1	
L5012	VLQEL05F820K	82uH	1	
		Combination Circuts		
		(Capacitor & Resistor)		
CR5001,5002	EXED103M682C	0.01 6.8k	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connectors		
P5001	VJP1235	8P	1	
P5002	VJP1394	13P	1	
		Miscellaneous		
	VKC0068	Hinge	2	
	VSC1279	Shield Case (Top)	1	
	VSC1280	Shield Case (Main)	1	
	VSC1315	Shield Case (Bottom)	1	
	VGQ0471	Spacer	1	
	VEP06239A	Operation P.C Board Unit	1	
		Integlated Circuits		
IC6502	BA6800		1	
IC6503	uPD7537		1	
		Transistor		
Q6501	2SB641		1	
		Combination Circuits		
		(Transistor & Resistor)		
QR6501-6504	DTA124A		4	or UN1112
QR6505	DTC124A		1	or UN1212
QR6506-6508	DTA124A		3	or UN1112
QR6509	DTC124A		1	or UN1212
		Diodes		
D6501	LN024234P	LED	1	
D6503	LN81RCPHL	LED	1	
D6504	MA165		1	
D6505	RD9.1EB	Zener	1	
D6506	MA4075	Zener	1	
D6507,6508	MA165		2	
D6510,6511	MA165		2	
		Resistors		
R6501	ERDS2TJ183	18k	1	
R6502-6504	ERDS2TJ473	47k	3	
R6506	ERDS2TJ473	47k	1	
R6507-6509	ERDS2TJ102	1k	3	
R6510	ERDS2TJ184	180k	1	
R6511,6512	ERDS2TJ103	10k	2	
R6513	ERDS2TJ563	56k	1	
R6514,6515	ERDS2TJ330	33	2	
R6516	ERDS2TJ104	100k	1	
R6517	ERDS2TJ103	10k	1	
R6519	ERDS2TJ682	6.8k	1	
R6520	ERDS2TJ560	56	1	
		Variable Resistors		
VR6501	EVN38CA00B53	5k	1	
VR6502,6503	EWAKF6X10B15	100k	2	
VR6504,6505	EWAKF6X10B24	20k	2	
VR6506	EVN38CA00B24	20k	1	
VR6507	EVN38CA00B53	5k	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Capacitor		
C6501	ECQB1H153KH	Mylar 50V 0.015	1	
C6502	ECEA0JK330	Electrolytic 6.3V 33	1	
C6503	ECEA1CKS100	Electrolytic 16V 10	1	
C6504	ECEA1EKS4R7	Electrolytic 25V 4.7	1	
C6505	ECEA1VS4R7	Electrolytic 35V 4.7	1	
C6506	ECEA1CKS100	Electrolytic 16V 10	1	
C6507	ECEA1HKS3R3	Electrolytic 50V 3.3	1	
C6508	ECEA1HKS0R1	Electrolytic 50V 0.1	1	
C6509	ECKF1H471KB	Ceramic 50V 470P	1	
C6510	ECKF1H101KB	Ceramic 50V 100P	1	
C6511	ECEA0JK101	Electrolytic 6.3V 100	1	
C6512,6513	ECKF1H103ZF	Ceramic 50V 0.01	2	
C6514	ECEA1CKS100	Electrolytic 16V 10	1	
		Resistor Arrays		
RX6501-6503	EXBP88104K	100kx8	3	
		Filter		
FL6501	VSL0051		1	
		Crystal Oscillator		
X6501	VSX0144		1	
		Switches		
S6501	EVQQS307K		1	
S6503-6506	EVQQS307K		4	
S6507	ESD14181		1	
S6508	ESD14182		1	
		Connectors		
P6501	VJP1233	6P	1	
P6502	VJP1236	9P	1	
P6503	VJP1235	8P	1	
P6505	VJP1232	5P	1	
P6506	VJP1250	10P	1	
P6507	VJP1230	3P	1	
		Miscellaneous		
	KL04	Spacer	1	
	VJF0052	Binder	1	
	VJF0242	Display Holder (R)	1	
	VJF0243	Display Holder (L)	1	
	VEB0047Z1/	TV Demodulator P.C Board	1	NV-870E/B
	VEB0047Y1	Unit		
		(VIF/SIF Section)		
		Integlated Circuits		
IC701	BN5115B		1	
IC751	AN5215		1	
		Transistors		
Q702	2SB641		1	(Q,R,S,T) or
				2SA564, 2SA733
Q703	2SD636		1	(S,T) or 2SD637(S,T)
Q761	2SD636		1	(Q,R,S,T) or
				2SC828, 2SC1684

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Diodes		
D711,712	MA165		2	NV-870E
D761	MA27WA		1	
		Resistors		
R713	ERDS2TJ332	3.3k	1	
R716	ERDS2TJ392	3.9k	1	NV-870E
R721	ERDS2TJ151	150	1	
R722	ERDS2TJ274	270k	1	
R731	ERDS2TJ271	270	1	
R732	ERDS2TJ391	390	1	
R733	ERDS2TJ102	1k	1	
R734	ERDS2TJ393	39k	1	
R735	ERDS2TJ473	47k	1	
R736	ERDS2TJ272	2.7k	1	
R741	ERDS2TJ470	47	1	
R743	EROS2CKG1001	Metal 1/2W 1k	1	
R744	ERDS2TJ332	3.3k	1	
R745	EROS2CKG8200	Metal 1/2W 820	1	
R746	ERDS2TJ680	68	1	
R747	ERDS2TJ151	150	1	
R749	ERDS2TJ470	47	1	
R751	ERDS2TJ121	120	1	
R752	ERD2FCG220	Fuse Resistor 22	1	⚠
R753	ERDS2TJ331	330	1	
R761	ERDS2TJ102	1k	1	
R762	ERDS2TJ103	10k	1	
R765	ERDS2TJ750	75	1	
		Variable Resistors		
VR701	EVN61AA00B23	2k	1	
VR701	EVN61AA00B23	2k	1	NV-870E
VR741	EVNE4AA00B24	20k	1	or VRV0022
VR751	EVNE4AA00B14	10k	1	or VRV0021
		Capacitors		
C711	ECKF1H103ZF	Ceramic 50V 0.01	1	
C713	ECKF1H103ZF	Ceramic 50V 0.01	1	
C714	ECEA1HK010	Electrolytic 50V 1	1	
C721	ECCF1H040CC	Ceramic 50V 4P	1	NV-870E
C721	ECCF1H030CC	Ceramic 50V 3P	1	NV-870B
C722	ECCF1H050CC	Ceramic 50V 5P	1	NV-870B
C722	ECCF1H060CC	Ceramic 50V 6P	1	NV-870E
C723	ECCF1H203ZF	Ceramic 50V 0.01	1	
C724-726	ECKF1H103ZF	Ceramic 50V 0.01	3	
C727	ECQV1H224JZ	Mylar 50V 0.22	1	
C728	ECKF1H103ZF	Ceramic 50V 0.01	1	
C730	ECCF1H150JC	Ceramic 50V 15P	1	
C731,732	ECCF1H040CC	Ceramic 50V 4P	2	
C733	ECCF1H220JC	Ceramic 50V 22P	1	
C734	ECCF1H121JP	Ceramic 50V 120P	1	
C735	ECCF1H150JC	Ceramic 50V 15P	1	
C736,737	ECKF1H103ZF	Ceramic 50V 0.01	2	
C738	ECCF1H150JC	Ceramic 50V 15P	1	
C739	ECCF1H560JR	Ceramic 50V 56P	1	
C740	ECCF1H220JR	Ceramic 50V 22P	1	
C741	ECCF1H150JC	Ceramic 50V 15P	1	
C742	ECCF1H680JC	Ceramic 50V 68P	1	
C751	ECCF1H820JC	Ceramic 50V 82P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C752	ECCF1H050CC	Ceramic 50V 5P	1	
C753	ECCF1H820JC	Ceramic 50V 82P	1	
C754	ECQV1H473JZ	Mylar 50V 0.04	1	
C755	ECEA1CK101	Electrolytic 16V 100	1	
C756	ECCF1H390JC	Ceramic 50V 39P	1	
C757	ECCF1H120JC	Ceramic 50V 12P	1	
C758	ECEA1CK100	Electrolytic 16V 10	1	
C759	ECQV1H104JZ	Mylar 50V 0.1	1	
		Coils		
L702	VLQEL05F470K	47uH	1	
L704	VLQEL05F150K	15uH	1	
L705	VLQEL05F560K	56uH	1	
L706	VLQEL05F820K	82uH	1	
L751	VLQEL05F220K	22uH	1	
		Transformers		
T701	EULHLS301		1	NV-870B
T701	EULHLS401		1	NV-870E
T702	ELM7A4101Y		1	
T703	EIV7E016F		1	
T704	EIV7E016E		1	
T751	EIS7E006A		1	
T752	EIS7E006B		1	
		Crystal Oscillators		
X702	EFCS5R5MS4		1	or VLF0178 NV-870E
X702	EFCS6ROMS4		1	or VLF0179 NV-870B
X703	EFCS5R5MW3		1	or VLF0182 NV-870E
X703	EFCS6ROMW3		1	or VLF0183 NV-870B
		Connectors		
P701	VJP1245	5P	1	
P702	VJP1243	3P	1	
		(Tuner Section)		
		Diodes		
D701	RD8.2JB	Zener	1	NV-870E
D702	RD8.2JB	Zener	1	
		Resistors		
R701	ERDS2TJ123	12k	1	
R702	ERDS2TJ392	3.7k	1	
R703	ERDS2TJ182	1.8k	1	
R704	ERDS2TJ182	1.8k	1	NV-870E
R705	ERDS2TJ332	3.3k	1	
R706	ERDS2TJ332	3.3k	1	NV-870E
		Capacitors		
C701	ECKF1H103ZF	Ceramic 50V 0.01	1	
C702	ECEA1CKS220	Electrolytic 16V 22	1	NV-870E
C702	ECEA1CKS330	Electrolytic 16V 33	1	NV-870B
C703	ECEA1CKS100	Electrolytic 16V 10	1	
C704	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-870E
C705	ECEA1CK330	Electrolytic 16V 33	1	NV-870E
C706	ECKF1H103ZF	Ceramic 50V 0.01	1	
C707	ECEA1HKS010	Electrolytic 50V 1	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C708	ECEA1CKS330	Electrolytic 16V 33	1	NV-870E
C709	ECEA1CKS100	Electrolytic 16V 10	1	
C710	ECQV1H104JZ	Mylar 50V 0.1	1	
		Coil		
L701	VLQEL05F680K	68uH	1	NV-870E
		Connectors		
P703	VJP1251	11P	1	
P704	VJP1242	2P	1	
		Tuner		
	TNV77759F2		1	NV-870E⚠
	TNV87359F2		1	NV-870B⚠
		Miscellaneous		
	VSC1216	Shield Case (Top)	1	
	VSC1339	Shield Case (Main)	1	
	VSC1148	Shield Case (Bottom)	1	
	VEB0067A1/ VEB0067B1	TV Demodulator P.C Board Unit	1	NV-870EG/EO
		(Tuner Section)		
		Transistor		
Q754	2SD636		1	(Q,R,S,T) or 2SD637
				(Q,R,S,T) 2SC1685
				(Q,R,S,T) 2SC1684
		Combination Circuits (Transistor & Resistor)		
QR751,752	UN1212		2	
		Diodes		
D701	RD8.2JB3	Zener	1	
D702	RD8.2JB3	Zener	1	
		Resistors		
R701	ERDS2TJ183	18k	1	
R702	ERDS2TJ392	3.9k	1	
R703,704	ERDS2TJ182	1.8k	2	
R705,706	ERDS2TJ332	3.3k	2	
R707	ERDS2TJ103	10k	1	
R708	ERDS2TJ221	220	1	
R774	ERDS2TJ102	1k	1	
		Capacitors		
C701	ECEA1CKS220	Electrolytic 16V 22	1	
C702	ECEA1CKS100	Electrolytic 16V 10	1	
C703,704	ECKF1H103ZF	Ceramic 50V 0.01	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C705	ECEA1CKS330	Electrolytic 16V 33	1	
C706	ECQB1H103JH	Mylar 50V 0.01	1	
C707	ECEA1CKS010	Electrolytic 50V 1	1	
C708	ECEA1CKS330	Electrolytic 16V 33	1	
C709	ECQV1H104JZ	Mylar 50V 0.1	1	
C710	ECEA1CKS330	Electrolytic 16V 33	1	
C711	ECQB1H103JH	Mylar 50V 0.01	1	
C712	ECKF1H103ZF	Ceramic 50V 0.01	1	
		Coils		
L701	VLQEL05F680K	68uH	1	
L702,703	VLQEL05F221K	220uH	2	
				(Q,R,S,T)
		Connector		
P703	VJP1251	11P	1	
		Tuner		
	TNV57763F2		1	NV-870EG⚠
	TNV57768F2R		1	NV-870EO⚠
		(VIF Section)		
		Integlated Circuit		
IC701	BN5115B		1	
		Transistors		
Q701	2SC1687		1	
Q702	2SB642		1	(Q,R,S,T) or 2SA564A
				(Q,R,S,T)
Q703	2SD636		1	(S,T) or 2SD637(S,T)
		Diodes		
D711,712	MA165		2	
		Resistors		
R711	ERDS2TJ332	3.3k	1	
R712	ERDS2TJ392	3.9k	1	
R713	ERDS2TJ102	1k	1	
R714	ERDS2TJ683	68k	1	
R715	ERDS2TJ563	56k	1	
R721,722	ERDS2TJ562	5.6k	2	
R723	ERDS2TJ221	220	1	
R724	ERDS2TJ821	820	1	
R725	ERDS2TJ181	180	1	
R726	ERDS2TJ274	270k	1	
R728	ERDS2TJ271	270	1	
R729	ERDS2TJ471	470	1	
R730	ERDS2TJ272	2.7k	1	
R731	ERDS2TJ470	47	1	
R732	EROS2CKG1001	Metal 1/2W 1k	1	
R733	ERDS2TJ332	3.3k	1	
R734	EROS2CKG8200	Metal 1/2W 820	1	
R735	ERDS2TJ680	68	1	
R736	ERDS2TJ151	150	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R737	ERDS2TJ470	47	1	
R738	ERDS2TJ750	75	1	
		Variable Resistors		
VR701,702	EVMK3GA00B23	2k	2	
VR741	EVNE4AA00B24	20k	1	or VRV0022
		Capacitors		
C714-717	ECCF1H103ZF	Ceramic 50V 0.01	4	
C718	ECEA1CK100	Electrolytic 16V 10	1	
C721	ECCF1H150JC	Ceramic 50V 15P	1	
C722,723	ECCF1H103ZF	Ceramic 50V 0.01	2	
C724	ECCF1H050CC	Ceramic 50V 5P	1	
C725	ECCF1H040CC	Ceramic 50V 4P	1	
C726-728	ECCF1H103ZF	Ceramic 50V 0.01	3	
C729	ECQB1H223KH	Mylar 50V 0.022	1	
C730	ECQV1H224JZ	Mylar 50V 0.22	1	
C731	ECEA1HK010	Electrolytic 50V 1	1	
C732	ECKF1H103ZF	Ceramic 50V 0.01	1	
C734	ECCF1H040CC	Ceramic 50V 4P	1	
C735	ECCF1H121JP	Ceramic 50V 120P	1	
C736	ECCF1H150JP	Ceramic 50V 15P	1	
C737	ECCF1H040CC	Ceramic 50V 4P	1	
C738-740	ECCF1H220JC	Ceramic 50V 22P	3	
C741	ECCF1H680JS	Ceramic 50V 68P	1	
C742	ECCF1H270JC	Ceramic 50V 27P	1	
C743	ECCF1H680JS	Ceramic 50V 68P	1	
C745	ECCF1H151JC	Ceramic 50V 150P	1	
C746	ECCF1H100DC	Ceramic 50V 10P	1	
C747	ECCF1H270JP	Ceramic 50V 27P	1	
C748	ECCF1H101JP	Ceramic 50V 100P	1	
C749	ECCF1H220JC	Ceramic 50V 22P	1	
		Coils		
L711	VLQEL05F100K	10uH	1	
L712	VLQEL05F101K	100uH	1	
L713	VLQEL05F120K	12uH	1	
L714	VLQEL05F2R2K	2.2uH	1	
L715	VLQEL05F330K	33uH	1	
L716	VLQEL05F820K	82uH	1	
L717	VLQEL05F3R3K	3.3uH	1	
		Transformer		
T701	EULHLS307		1	VIF
T702	ELM7A4101Y		1	Trap
T703	EIV7E016F		1	Selective
T704	EIV7E016E		1	AFC
T705	EIM7A4101Y		1	
		Crystal Oscillator		
X701	EFCS5R5MW3		1	or VLF0182
		Connectors		
P701	VJP1245	5P	1	
P702	VJP1243	3P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Miscellaneous		
	VSC1211	VIF Shield Case (Main)	1	
	VSC1297	VIF Shield Case (Top)	1	
	VSC1298	VIF Shield Case (Bottom)	1	
		(SIF Section)		
		Integlated Circuits		
IC751	AN5130		1	
IC752,753	AN5215		2	
		Transistors		
Q751	2SC1687		1	
Q752,753	2SD637		2	or (Q,R,S,T)
				2SC1685(Q,R,S,T)
Q755,756	2SD637		2	or (Q,R,S,T)
				2SC1685(Q,R,S,T)
		Diode		
D751	MA27WA		1	or MA27WB
		Resistors		
R751	ERDS2TJ562	5.6k	1	
R752	ERDS2TJ221	220	1	
R753	ERDS2TJ562	5.6k	1	
R754	ERDS2TJ821	820	1	
R755	ERDS2TJ390	39	1	
R756	ERDS2TJ562	5.6k	1	
R757	ERDS2TJ122	1.2k	1	
R758	ERDS2TJ332	3.3k	1	
R759	ERDS2TJ103	10k	1	
R760-762	ERDS2TJ471	470	3	
R763	ERD2FCG220	Fuse Resistor 22	1	⚠
R764,765	ERDS2TJ471	470	2	
R766	ERD2FCG220	Fuse Resistor 22	1	⚠
R767	ERDS2TJ562	5.6k	1	
R768,769	ERDS2TJ823	82k	2	
R770	ERDS2TJ102	1k	1	
R771	ERDS2TJ272	2.7k	1	
R772	ERDS2TJ102	1k	1	
R773	ERDS2TJ103	10k	1	
R775	ERDS2TJ222	2.2k	1	
R776,777	ERDS2TJ473	47k	2	
R778	ERDS2TJ222	2.2k	1	
		Variable Resistor		
VR751	EVNE4AA00B14	10k	1	or VRV0021
		Capacitors		
C751	ECKF1H103ZF	Ceramic 50V 0.01	1	
C752	ECCF1H470JC	Ceramic 50V 47P	1	
C753	ECKF1H103ZF	Ceramic 50V 0.01	1	
C754	ECCF1H080CC	Ceramic 50V 8P	1	
C755	ECCF1H121JP	Ceramic 50V 120P	1	
C756	ECCF1H100DC	Ceramic 50V 10P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C757	ECCF1H070CC	Ceramic 50V 7P	1	
C758	ECKF1H102KB	Ceramic 50V 1000P	1	
C759	ECKF1H103ZF	Ceramic 50V 0.01	1	
C760	ECEA1HK2R2	Electrolytic 50V 2.2	1	
C761	ECKF1H102KB	Ceramic 50V 1000P	1	
C762	ECKF1H103ZF	Ceramic 50V 0.01	1	
C763	ECEA1CK100	Electrolytic 16V 10	1	
C764	ECCF1H680JP	Ceramic 50V 68P	1	
C765	ECCF1H101JC	Ceramic 50V 100P	1	
C766	ECKF1H102KB	Ceramic 50V 1000P	1	
C767	ECKF1H103ZF	Ceramic 50V 0.01	1	
C768	ECEA1CK101	Electrolytic 16V 100	1	
C769	ECCF1H390JP	Ceramic 50V 39P	1	
C770	ECCF1H120JC	Ceramic 50V 12P	1	
C771	ECKF1H102KB	Ceramic 50V 1000P	1	
C772	ECEA1CK100	Electrolytic 16V 10	1	
C773	ECKF1H102KB	Ceramic 50V 1000P	1	
C774	ECKF1H103ZF	Ceramic 50V 0.01	1	
C775	ECEA1CK101	Electrolytic 16V 100	1	
C776	ECCF1H390JP	Ceramic 50V 39P	1	
C777	ECCF1H120JC	Ceramic 50V 12P	1	
C778	ECKF1H102KB	Ceramic 50V 1000P	1	
C779,780	ECEA1CK100	Electrolytic 16V 10	2	
C781	ECQB1H223JH	Mylar 50V 0.022	1	
C782	ECQB1H152JH	Mylar 50V 1500P	1	
C783	ECCF1H030CC	Ceramic 50V 3P	1	
		Coils		
L751	VLQEL05F100K	10uH	1	
L752	VLQEL05F101K	100uH	1	
		Transformers		
T751	ELM7A4101Y		1	
T752	EULHLS308		1	
T753	EIV7E018C		1	
T754,755	EIS7E006B		2	
		Crystal Oscillators		
X751,752	EFCS5R5MS4		2	
X753,754	EFCS5R74MS4B		2	
X755,756	ELB5A016		2	
		Connector		
P705	VJP1246	6P	1	
		Miscellaneous		
	VSC1295	SIF Shield Case (Top)	1	
	VSC1296	SIF Shield Case (Bottom)	1	
	VSC1339	SIF Shield Case (Main)	1	
	VEP07243A	Decoder P.C. Board Unit	1	NV-870EG/EO
		Integlated Circuits		
IC7001	BN5823		1	
IC7002	LA7755M		1	
IC7003	TC4066BP		1	or uPD4066BC

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Transistors		
Q7001	2SD637		1	(Q,R,S,T) or 2SC1685
				(Q,R,S,T)
Q7002	2SB641		1	(Q,R,S,T) or 2SA564
				(Q,R,S,T)
Q7003,7004	2SD637		2	(Q,R,S,T) or 2SC1685
				(Q,R,S,T)
Q7005	2SB641		1	(Q,R,S,T) or 2SA564
				(Q,R,S,T)
Q7006-7015	2SD637		10	(Q,R,S,T) or 2SC1685
				(Q,R,S,T)
Q7017	2SD637		1	(Q,R,S,T) or 2SC1685
				(Q,R,S,T)
		Combination Circuit		
		(Transistor & Resistor)		
QR7001	DTC114A		1	or UN1211
		Diodes		
D7001-7004	MA165		4	
D7005,7006	MA1082	Zener	2	or RD8.2EB2
D7007-7011	MA165		5	
		Resistors		
R7002	ERDS2TJ224	220k	1	
R7003	ERDS2TJ333	33k	1	
R7004	ERDS2TJ182	1.8k	1	
R7005	ERDS2TJ152	1.5k	1	
R7006	ERDS2TJ563	56k	1	
R7007	ERDS2TJ682	6.8k	1	
R7008,7009	ERDS2TJ102	1k	2	
R7010,7011	ERDS2TJ103	10k	2	
R7012,7013	ERDS2TJ473	47k	2	
R7014	ERD2FCG220	Fuse Resistor 22	1	⚠
R7015	ERDS2TJ473	47k	1	
R7016,7017	ERDS2TJ474	470k	2	
R7018	ERDS2TJ104	100k	1	
R7019	ERDS2TJ182	1.8k	1	
R7020	ERDS2TJ273	27k	1	
R7021	ERDS2TJ102	1k	1	
R7022	ERDS2TJ333	33k	1	
R7023	ERDS2TJ104	100k	1	
R7024	ERDS2TJ103	10k	1	
R7025	ERDS2TJ104	100k	1	
R7027	ERDS2TJ154	150k	1	
R7029	ERDS2TJ823	82k	1	
R7030	ERDS2TJ104	100k	1	
R7031	ERDS2TJ564	560k	1	
R7032	ERDS2TJ104	100k	1	
R7033	ERDS2TJ684	680k	1	
R7035	ERDS2TJ124	120k	1	
R7036	ERDS2TJ683	68k	1	
R7037	ERDS2TJ102	1k	1	
R7038	ERDS2TJ222	2.2k	1	
R7039	ERDS2TJ104	100k	1	
R7041	ERDS2TJ473	47k	1	
R7042	ERDS2TJ182	1.8k	1	
R7043	ERDS2TJ104	100k	1	
R7045	ERDS2TJ473	47k	1	
R7046	ERDS2TJ104	100k	1	
R7047,R7048	ERDS2TJ102	1k	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R7049-7053	ERDS2TJ103	10k	5	
R7054	ERDS2TJ273	27k	1	
R7055	ERDS2TJ102	1k	1	
R7056	ERDS2TJ152	1.5k	1	
R7057	ERDS2TJ103	10k	1	
R7058	ERDS2TJ273	27k	1	
R7059-7061	ERDS2TJ103	10k	3	
R7062	ERDS2TJ273	27k	1	
R7064	ERDS2TJ152	1.5k	1	
R7065	ERDS2TJ103	10k	1	
R7066	ERDS2TJ330	33	1	
R7067,7068	ERDS2TJ472	4.7k	2	
R7069	ERDS2TJ152	1.5k	1	
R7070	ERDS2TJ104	100k	1	
R7077	ERDS2TJ102	1k	1	
R7082	ERDS2TJ102	1k	1	
R7091	ERD2FCG220	Fuse Resistor 22	1	⚠
R7092	ERDS2TJ183	18k	1	
R7095,7096	ERDS2TJ681	680	2	
R7097	ERDS2TJ823	82k	1	
R7098,7099	ERDS2TJ103	10k	2	
		Variable Resistors		
VR7001	EVN61AA00B33	3k	1	
VR7026	EVNK6AA00B15	10k	1	
VR7028	EVNK6AA00B54	5k	1	
VR7040	EVN50AA00B14	10k	1	
VR7044	EVN50AA00B14	10k	1	
		Capacitors		
C7001	ECEA1CK470	Electrolytic 16V 47	1	
C7002	ECEA0JS471	Electrolytic 6.3V 470	1	
C7003	ECQB1H333JH	Mylar 50V 0.033	1	
C7004	ECQB1H822JH	Mylar 50V 8200P	1	
C7005	ECQB1H152JH	Mylar 50V 1500P	1	
C7006	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7007	ECQB1H223JH	Mylar 50V 0.022	1	
C7008	ECEA1CK100	Electrolytic 16V 10	1	
C7009	ECEA1CS221	Electrolytic 16V 220	1	
C7010	ECEA1CK100	Electrolytic 16V 10	1	
C7011	ECEA0JK101	Electrolytic 6.3V 100	1	
C7012,7013	ECEA1EK4R7	Electrolytic 25V 4.7	2	
C7014,7015	ECKF1H103ZF	Ceramic 50V 0.01	2	
C7016	ECEA1CK470	Electrolytic 16V 47	1	
C7017	ECEA1CU101	Electrolytic 16V 100	1	
C7018	ECQB1H273JH	Mylar 50V 0.027	1	
C7019	ECEA1HKR47	Electrolytic 50V 0.47	1	
C7020	ECEA1HK2R2	Electrolytic 50V 2.2	1	
C7021	ECEA1HK010	Electrolytic 50V 1	1	
C7022	ECEA1HK2R2	Electrolytic 50V 2.2	1	
C7023	ECEA1HKR47	Electrolytic 50V 0.47	1	
C7024	ECQB1H223JH	Mylar 50V 0.022	1	
C7025	ECEA1AS101	Electrolytic 10V 100	1	
C7026-7028	ECEA1CK100	Electrolytic 16V 10	3	
C7029	ECEA1EK4R7	Electrolytic 25V 4.7	1	
C7030	ECQB1H183JH	Mylar 50V 0.018	1	
C7031	ECQB1H152JH	Mylar 50V 1500P	1	
C7032	ECQB1H153JH	Mylar 50V 0.015	1	
C7033	ECQB1H152JH	Mylar 50V 1500P	1	
C7034	ECEA1EK4R7	Electrolytic 25V 4.7	1	
C7035,7036	ECKF1H102KB	Ceramic 50V 1000P	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C7037	ECEA50Z1	Electrolytic 50V 1	1	
C7042	ECEA1CK470	Electrolytic 16V 47	1	
C7049	ECEA1CK470	Electrolytic 16V 47	1	
C7051	ECEA1CK330	Electrolytic 16V 33	1	
C7057,7058	ECQB1H822JH	Mylar 50V 8200P	2	
C7091,7092	ECQB1H103JH	Mylar 50V 0.01	2	
		Coils		
L7001	VLQEL05F102K	1mH	1	
L7002	VTQ0016	36mH	1	
L7003,7004	VLQEL05F102K	1mH	2	
L7010,7011	VTQ0014	10mH	2	
		Transformer		
T7001	EIR7QG001B		1	
		Connectors		
P7007	VJP1231	4P	1	
P7006	VJP1232	5P	1	
P7005	VJP1233	6P	1	
	VEP07250A/B/C	Timer Operation P.C. Board Unit	1	
		Integlated Circuits		
IC7501	MN1455BVL		1	
IC7502	AN6873N		1	or MSL915RS
IC7503	MN1512VTP		1	
IC7504	MN1219		1	
IC7505	AN5033		1	
IC7507	AN5421		1	
IC7508	MN4050UB		1	or uPD4050UBC
IC7509	AN6913		1	
IC7510	MN4066B		1	or uPD4066BC
		Transistors		
Q7501	2SB641		1	(Q,R,S)
Q7503	2SD636		1	or 2SD637
Q7507,7508	2SB644		2	
Q7510	2SD637		1	
Q7522	2SA794		1	
Q7523	2SC2497		1	
Q7550	2SD636		1	or 2SD637
Q7554	2SD636		1	or 2SD637
		Combination Parts (Transistor & Resistor)		
QR7511	DTA124A		1	or UN1112
QR7520	DTC114A		1	or UN1211
QR7551	DTC144A		1	or UN1213

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Diodes		
D7501,7502	MA165		2	or 1SS133
D7505	LN28WPVT	LED	1	
D7506	10E2		1	or ERB1202G1
D7509	MA27WB		1	
D7510	LN28WPVT	LED	1	
D7511	MA165		1	or 1SS133
D7512	10E2		1	or ERB1202G1
D7514,7515	MA165		2	or 1SS133
D7520,7521	MA165		2	or 1SS133 NV-870B
D7529-7531	LN28RCPP	LED	3	NV-870E/EG/EO
D7532,7533	LN28RCPP	LED	2	
D7540,7541	MA165		2	or 1SS133
D7542	10E2		1	or ERB1202G1
D7545	MA165		1	or 1SS133
D7553	MA165		1	or 1SS133
D7554	RD13EB2	Zener	1	or MA1130
D7555	RD30EB2	Zener	1	
D7556	RD7.5EB	Zener	1	or MA1075
D7587	MA165		1	or 1SS133
		Resistors		
R7501	ERDS2TJ122	1.2k	1	
R7502	ERC14GJ126	Solid 12M	1	
R7503,7504	ERDS2TJ102	1k	2	
R7505,7506	ERDS2TJ223	22k	2	
R7506	ERDS2TJ223	22k	1	
R7507	ERDS2TJ181	180	1	
R7508	ERDS2TJ334	330k	1	
R7509	EVNK6AA00B25	Variable 200k	1	or EVN61AA00B25
R7510	ERDS2TJ124	120k	1	
R7511	ERDS2TJ154	150k	1	
R7512	ERDS2TJ104	100k	1	
R7513	ERD2FCG120	Fuse Resistor 12	1	⚠
R7514	ERDS2TJ102	1k	1	
R7515	ERDS2TJ151	150	1	
R7516	ERDS2TJ473	47k	1	
R7517	ERDS2TJ561	560	1	
R7520	ERDS2TJ102	1k	1	
R7521	ERDS2TJ222	2.2k	1	
R7522-7525	ERDS2TJ221	220	4	
R7526	ERDS2TJ104	100k	1	NV-870E/EG/EO
R7527	ERDS2TJ104	100k	1	
R7528	ERDS2TJ103	10k	1	
R7529	ERDS2TJ473	47k	1	
R7530	ERDS2TJ104	100k	1	
R7531	ERDS2TJ124	120k	1	
R7535	EVNK6AA00B14	Variable 10k	1	or EVN61AA00B14
R7539	ERDS2TJ390	39	1	
R7540	ERDS2TJ820	82	1	
R7541	ERDS2TJ153	15k	1	
R7542	ERDS2TJ473	47k	1	
R7546	ERDS2TJ273	27k	1	
R7547	ERDS2TJ104	100k	1	
R7548	ERDS2TJ332	3.3k	1	
R7550	ERD2FCG270	Fuse Resistor 27	1	⚠
R7551	ERDS2TJ332	3.3k	1	
R7552	ERDS2TJ102	1k	1	
R7554	ERDS2TJ473	47k	1	
R7555	ERDS2TJ221	220	1	
R7556	ERDS2TJ105	1M	1	
R7560	ERDS2TJ222	2.2k	1	
R7566	ERDS2TJ102	1k	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R7570	ERDS2TJ332	3.3k	1	
R7571	ERDS2TJ102	1k	1	
R7575	ERDS2TJ334	330k	1	NV-870E/EG/EO
R7576	ERDS2TJ223	22k	1	
R7577	ERDS2TJ473	47k	1	
R7590	ERDS2TJ101	100	1	
R7591	ERDS2TJ471	470	1	
R7592	ERDS2TJ562	5.6k	1	
R7593	ERDS2TJ151	150	1	
R7594	ERDS2TJ472	4.7k	1	
R7595	ERDS2TJ104	100k	1	
R7596	EVMK3GA00B23	Variable 2k	1	
R7597	ERDS2TJ562	5.6k	1	
R7598	ERDS2TJ393	39k	1	
R7599	ERDS2TJ222	2.2k	1	
R7600	ERDS2TJ393	39k	1	
R7601	ERDS2TJ472	4.7k	1	
R7602-7604	ERDS2TJ681	680	3	NV-870E/EG/EO
R7605,7606	ERDS2TJ681	680	2	
R7607	ERDS2TJ223	22k	1	
R7608,7609	ERDS2TJ473	47k	2	
R7610,7611	ERDS2TJ333	33k	2	
R7616	ERDS2TJ103	10k	1	
R7617	ERDS2TJ472	4.7k	1	
R7618	ERDS2TJ103	10k	1	
R7619	ERDS2TJ822	8.2k	1	
R7620	ERDS2TJ332	3.3k	1	
R7624	ERDS2TJ472	4.7k	1	
R7650,7651	ERDS2TJ181	180	2	
R7652	ERDS2TJ104	100k	1	
		Capacitors		
C7501	ECCF1H080DC	Ceramic 50V 8P	1	
C7502	ECV1ZW20X53T	Trimmer 500V 20P	1	
C7503,7504	ECCF1H330JC	Ceramic 50V 33P	2	
C7505	ECCF1H220JC	Ceramic 50V 22P	1	
C7506	ECQV1H104JZ	Mylar 50V 0.1	1	
C7507,7508	ECEA1HKR22	Electrolytic 50V 0.22	2	
C7510	ECEA1AK101	Electrolytic 10V 100	1	
C7511	ECFZ1H103ZF	Ceramic 50V 0.01	1	
C7513,7514	ECCF1H470J	Ceramic 50V 47P	2	
C7515	ECQV1H104JZ	Ceramic 50V 0.1	1	
C7516	ECQV1H683JZ	Mylar 50V 0.068	1	
C7517	ECQB1H273JH	Mylar 50V 0.027	1	
C7518	ECQV1H823JZ	Mylar 50V 0.082	1	
C7520,7521	ECKF1H103ZF	Ceramic 50V 0.01	2	
C7523	ECEA1HK010	Electrolytic 50V 1	1	
C7524	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7527	ECEA1HK100	Electrolytic 50V 10	1	
C7528	ECQB1H473JH	Mylar 50V 0.047	1	
C7530	ECQV1H104JZ	Mylar 50V 0.1	1	
C7532	ECEA1HK010	Electrolytic 50V 1	1	
C7540-7542	EECW2R3A3R3	Gold 2.3V 3.3F	3	
C7543	ECEA1HK010	Electrolytic 50V 1	1	
C7545	ECEA1CKN330	Electrolytic 16V 33	1	
C7546	ECQB1H103JH	Mylar 50V 0.01	1	
C7547	ECQB1H392JH	Mylar 50V 3900P	1	
C7548,7549	ECEA1HK010	Electrolytic 50V 1	2	
C7551	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-870E/EG/EO
C7552	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7553	ECKF1H103ZF	Ceramic , 50V 0.01	1	NV-870E/EG/EO
C7554	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7587	ECEA1CK470	Electrolytic 16V 47	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C7589		ECQB1H272JH	Mylar 50V 2700P	1	
C7590		ECQP1562JZ	Mylar 100V 5600P		
C7592		ECKF1H103ZF	Ceramic 50V 0.01	1	
			Coil		
L7501		VLQEL05F102K	1mH	1	
			Crystal Oscillators		
X7501		VSX0071			
X7502		VSX0094			
X7503		VSX0082			
			Switches		
SW7516-7519		EVQQS307K		4	
SW7521		EVQQS307K			
			Connectors		
P7501		VJP1238	11P	1	
P7502		VJP1234	7P	1	
P7503		VJP1233	6P	1	
P7504		VJP1230	3P	1	
P7505		VJP1229	2P	1	
P7506		VJP1232	5P	1	NV-870EG/EO
P7507		VJP1230	3P	1	
P7508		VJP1238	11P	1	
			Miscellaneous		
		VMZ0617	Barrier (A)	1	
		VMZ0618	Barrier (B)	1	
		VGQ0457	LED Spacer	5	
		VHN0041	Rivet	3	
		VKC0068	Hinge	2	
		VEP0725iA/B	Timer Operation P.C.	1	
			Board Unit		
			Integlated Circuit		
IC7580		uPC1373H		1	or uPC1373HA
			Transistors		
Q7580		2SB641		1	
Q7581		2SD636		1	
			Combination Circuits		
			(Transistor & Resistor)		
QR7513-7515		DTA124A		3	or UN1112
			Diodes		
D7516-7519		MA165		4	or 1SS133
D7526		LN840RCP	LED	1	
D7527,7528		LN840RCP	LED	2	NV-870EG/EO

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
D7539		MA165		1	or 1SS133
D7581		MA165		1	or 1SS133
D7588		MA165		1	or 1SS133
			Resistors		
R7519		ERDS2TJ821	820	1	NV-870EG/EO
R7553		ERDS2TJ470	47	1	
R7557-7559		ERDS2TJ473	47k	3	
R7580		ERDS2TJ154	150k	1	
R7581		ERDS2TJ120	12	1	
R7582		ERDS2TJ102	1k	1	
R7583		ERDS2TJ473	47k	1	
R7584		ERDS2TJ334	330k	1	
R7585		ERDS2TJ124	120k	1	
R7586		ERDS2TJ473	47k	1	
R7623		ERDS2TJ821	820k	1	
R7628		ERDS2TJ821	820	1	NV-870EG/EO
R7640		ERDS2TJ623	62k	1	
R7641		ERDS2TJ333	33k	1	
R7642		ERDS2TJ183	18k	1	
R7643		ERDS2TJ822	8.2k	1	
R7644		ERDS2TJ472	4.7k	1	
R7645		ERDS2TJ272	2.7k	1	
R7646		ERDS2TJ122	1.2k	1	
R7647		ERDS2TJ681	680	1	
R7648		ERDS2TJ301	300	1	
R7649		ERDS2TJ391	390	1	
			Capacitors		
C7580		ECQB1H183JH	Mylar 50V 0.018	1	
C7581		APS472J100	Mylar 100V 4700P	1	or VCF0006
C7582		ECEA1CK100	Electrolytic 16V 10	1	
C7583		ECEA1HKR47	Electrolytic 50V 0.47	1	
C7584		ECEA1CK470	Electrolytic 16V 47	1	
C7585		ECEA1CK100	Electrolytic 16V 10	1	
C7586		ECQB1H102JH	Mylar 50V 1000P	1	
C7588		ECKF1H331KB	Ceramic 50V 330P	1	
			Switches		
SW7504		ESD14182		1	
SW7505-7508		EVQQS307K		4	
SW7510		EVQQS307K		1	
SW7512,7513		EVQQS307K		2	
SW7514		ESD14181		1	
SW7523,7524		EVQQS307K		2	
SW7530-7540		EVQQS307K		11	
			Transformer		
T7580		ELM7Q206A		1	
			Display Tube		
DP7501		VSL0049B		1	
			Connector		
P6508		VJP1233	6P	1	
			Miscellaneous		
		VGQ0458	Display Tube Space	2	
		VGU1781	Mode Sw Knob	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VGU1830	Timer Set Sw Knob	1	
	VJF0240	Display Tube Holder (R)	1	
	VJF0241	Display Tube Holder (L)	1	
	VSC1268	IR Shield Case (Top)	1	
	VSC1269	IR Shield Case (Main)	1	
	VSC1270	IR Shield Case (Bottom)	1	
	VSC1294	IR Shield Board	1	
	ENC87771/	RF Converter & Antenna	1	
	ENC87772/	Booster Unit		
	ENC87774/			
	ENC87776			
		Integrated Circuit		
IC1	AN3130		1	
		Transistors		
Q1	2SC2480		1	or 2SC3130
Q2,3	2SC2570A		2	or 2SC2671F,2SC3355
Q4	2SB642		1	or 2SB644 NV-870B
		Diodes		
D1,2	1SS86		2	or 1SS88,1SS97,1SS98
				1SS99,1SS174
D3,4	MA161		2	or 1SS110,1SS135
D5	MA161		1	or 1SS135 NV-870B
	Note:			
	The other parts for RF Converter &			
	Antenna Terminal Unit are not available			
	as spare parts			
	VJB00C40	Supply Photo Tr.	1	
		P.C. Board		
		Transistor		
Q1502	PN150NV	Photo Tr.	1	
		Capacitor		
C1502	ECKF1H102KB	Ceramic 50V 1000P	1	
		Miscellaneous		
	VMD0645	Photo Tr. Holder	1	
	VJB00C48	Sensor LED P.C.	1	
		Board		
		Diode		
D1501	GL450	Photo Diode	1	or LN59
		Miscellaneous		
	VMD0644	LED Holder	1	
	VJB00D08	Mechanism Connection	1	
		P.C. Board		

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Capacitor		
C1504	ECEA1HKN010	Electrolytic 50V 1	1	
		Connectors		
P1511	VJP1245	5P	1	
P1512	VJP1242	2P	1	
P1513	VJP1238	11P	1	
P1514	VJP1231	4P	1	
P1515	VJP1229	2P	1	
P1516	VJP1230	3P	1	
	VJB00D10	Front Loading P.C.	1	
		Board		
		Transistor		
Q1503	PN150NV	Photo Tr.	1	
		Capacitor		
C1503	ECKF1H102KB	Ceramic 50V 1000P	1	
		Connector		
P1510	VJP1247	7P	1	
		Miscellaneous		
	VMD0645	Photo Tr. Holder	1	
	VJB00D11	Reel Sensor P.C.	1	
		Board		
		Photo Interrupter		
IC1501	ON2160		1	or ON2160R
		Connector		
P1518	VJP1229	2P	1	
		Miscellaneous		
	VMX0744	Sensor Spacer	1	
	VJB00D12	21 Pin Connector	1	
		P.C. Board		
		Connector		
P3501	VJP1252	12P	1	
		Miscellaneous		
	VJS1469	21P Jack	1	or VJS1470
	VJB00D25	IR Receiver P.C. Board	1	
		Diode		
D7580	PN313		1	or PH302

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connector		
P7580	VJP1400	2P	1	
	VJB00D62	Power Tr. (1) P.C. Board		
		Transistor		
Q1502	2SD1275		1	
		Connector		
P1502	VJP1230	3P	1	
	VJB00D63	Power Tr. (2) P.C. Board	1	
		Transistor		
Q1503	2SD1275		1	
		Connector		
D1503	VJP1230	3P	1	
	VJB00D64	Power Tr. (3) P.C. Board	1	
		Transistor		
Q1504	2SD1275		1	
		Fuse		
F1104	XBA2C16TRO	250V 1.6A	1	⚠
		Miscellaneous		
	TJC6320	Fuse Holder	2	⚠
	VJB00D65	Head Phone Jack P.C. Board	1	
	VJJ0096	Head Phone Jack	1	
	VJB00D81	Cylinder Heater P.C. Board	1	
		Transistor		
Q1501	2SD1273		1	
		Connector		
P1506	VJP1243	3P	1	
	VEP22026A	Remote Control P.C. Board Unit	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Integrated Circuit		
IC1	MN6030B		1	
		Transistor		
Q1	2SD1458		1	
		Diodes		
D1	SE303A		1	or LN66
D2,3	MA154WK		2	
		Resistors		
R1	ERDS2TJ102	1k	1	
R2	ERDS2TJ473	47k	1	
R3	ERDS2TJ1RO	1	1	
		Capacitors		
C1	ECKF1H471KB	Ceramic 50V 470P	1	
C2	ECKF1H121KB	Ceramic 50V 120P	1	
C3	ECEA0JK101	Electrolytic 6.3V 100	1	
		Crystal Oscillator		
X1	CSB420PB1		1	
		Switch		
SW1	ESD14126		1	

ORDER NO. VRD-SC-407-89

Service Manual

VHS Hi-Fi Video Cassette Recorder

Effective From: Serial No. First Production

Model No. NV-870E/EG/B/EO

Supplement

To improve the specification & productivity, followings have been changed from the first production. Please file this Supplementary Service Manual as correction together with the Service Manual for Model No. NV-870E/EG/B/EO (Order No. VRD-8409-106).

CHANGE OF ELECTRICAL ADJUSTMENT PROCEDURES (SECTION 2)

2-5-3. REG +5V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1003	VR1003	STOP	
TAPE	M. EQ.	SPEC.	
	D.V.M.	5.1 ± ~~0.1V~~ 0.05V	

2-5-5. TRACKING FIX ADJUSTMENT

IC2002-4

TP	ADJ.	MODE	INPUT
~~TP2001~~ TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	T= ~~10 ± 1 msec.~~ 5.8 ± 0.4 msec.	

2-5-9. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5007 (HOT) TP5008 (GND)	VR3001	REC • PLAY	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	100 ± ~~10 mVp-p~~ 5 mVp-p	

2-5-15. AUDIO PLAYBACK LEVEL ADJUSTMENT

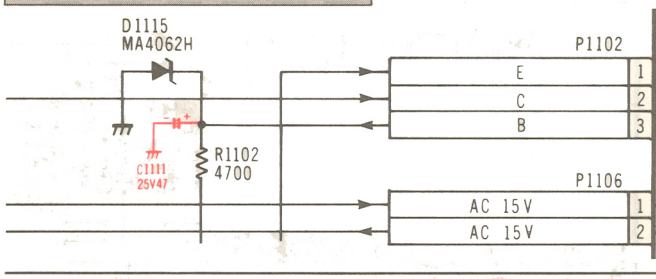
TP	ADJ.	MODE	INPUT
LINE OUT	VR4001 (Normal) VR4504 (CH1) VR4508 (CH2)	SELF RECORDING	1kHz, 0dB AUDIO SIGNAL & VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ V.T.V.M./ SIGNAL GENER-ATOR	E-E LEVEL= ~~−8 ± 2 dB~~ $-8^{+2}_{-1.5}$ dB PLAYBACK LEVEL= E-E LEVEL ± 0.5dB	

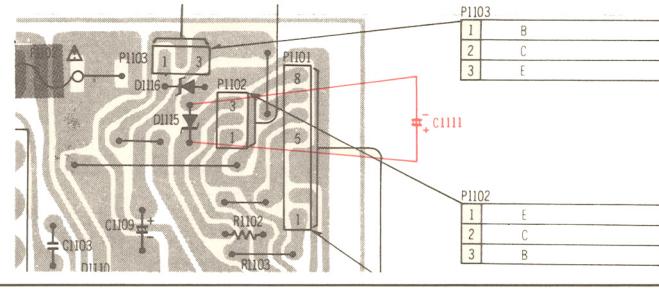
2-5-40. CONFIRMATION OF VIDEO LEVEL AND BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP711	VR741		RF COLOUR BAR SIGNAL
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	VIDEO LEVEL 1.0 ± 0.2 Vp-p BURST LEVEL ~~240 ± 20 mVp-p~~ 220^{+50}_{-10} mVp-p	

CHANGE OF SCHEMATIC DIAGRAMS & CIRCUIT BOARDS (SECTION 3)

POWER TRANSFORMER

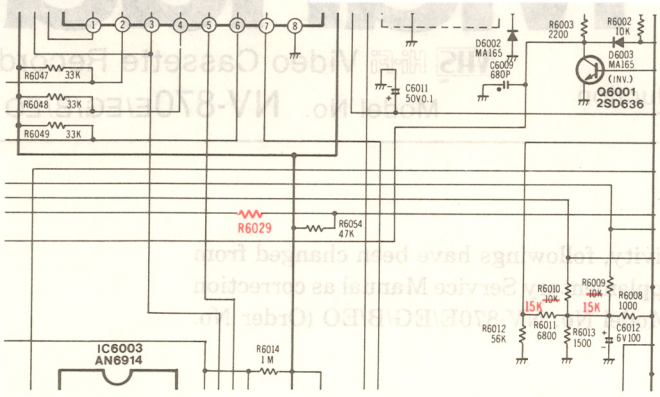


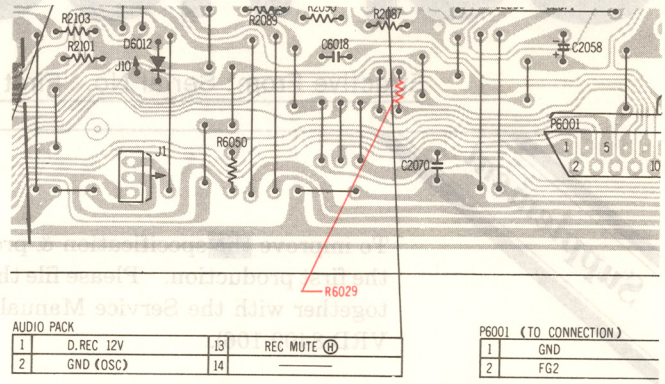


National/Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

SYSTEM CONTROL



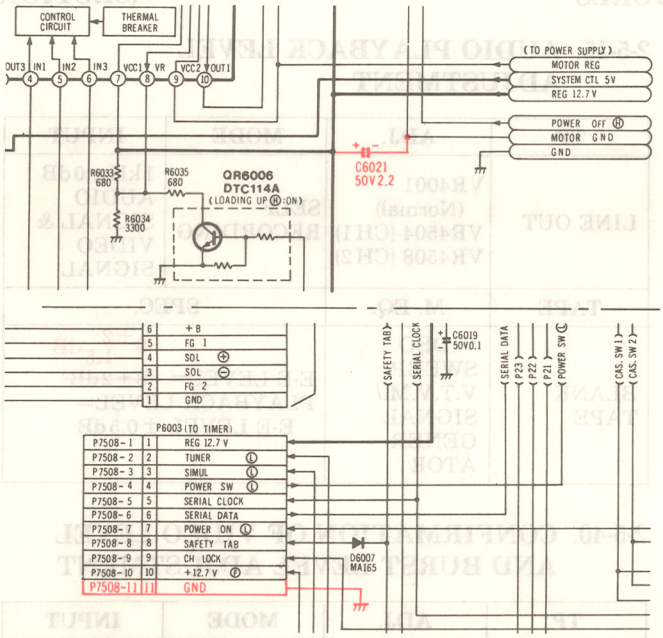


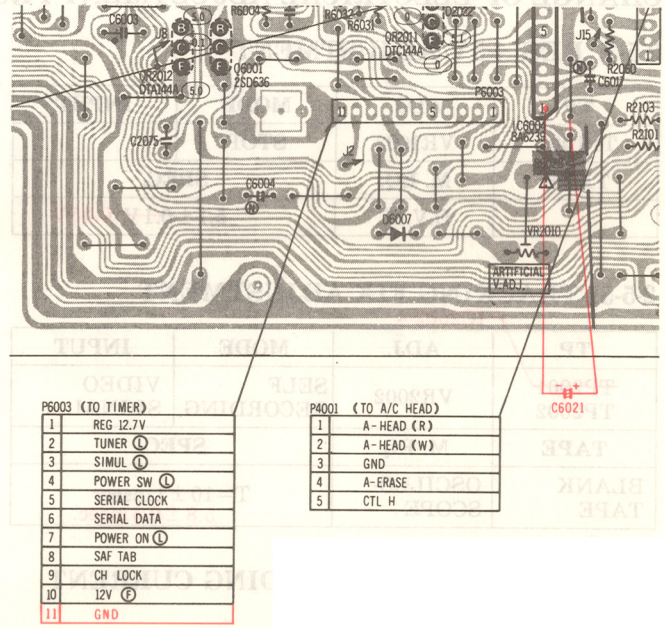
AUDIO PACK

1	D.REC 12V	13	REC MUTE (H)
2	GND (OSC)	14	

P6001 (TO CONNECTION)

1	GND
2	FG2



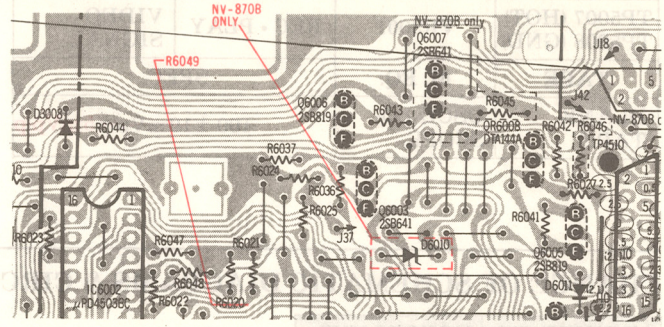


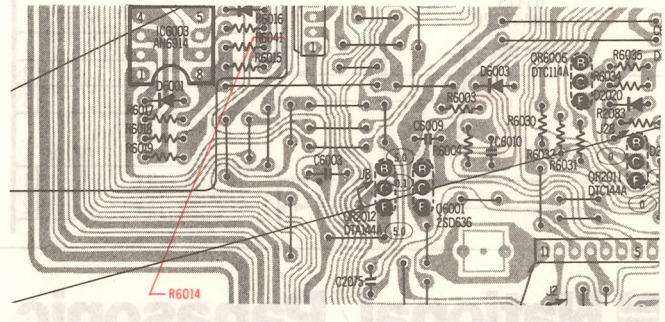
P6003 (TO TIMER)

1	REG 12.7V
2	TUNER (L)
3	SIMUL (L)
4	POWER SW (L)
5	SERIAL CLOCK
6	SERIAL DATA
7	POWER ON (L)
8	SAF TAB
9	CH LOCK
10	12V (F)
11	GND

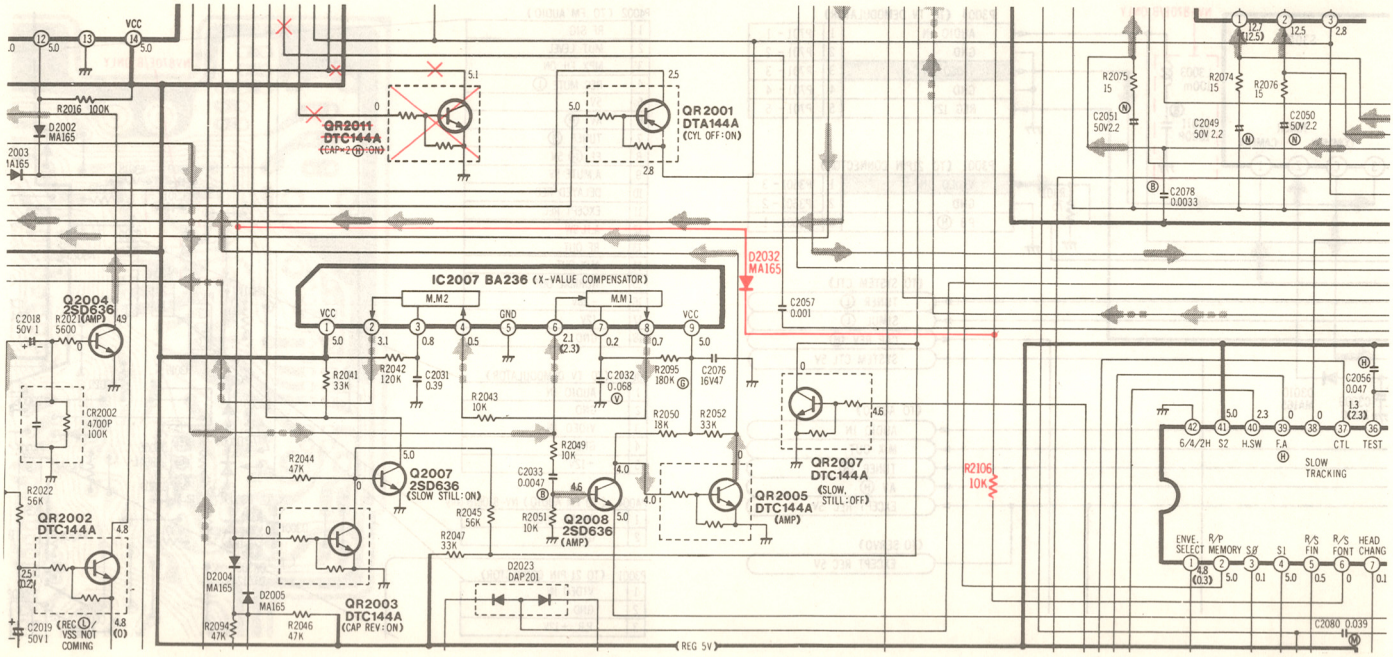
P4001 (TO A/C HEAD)

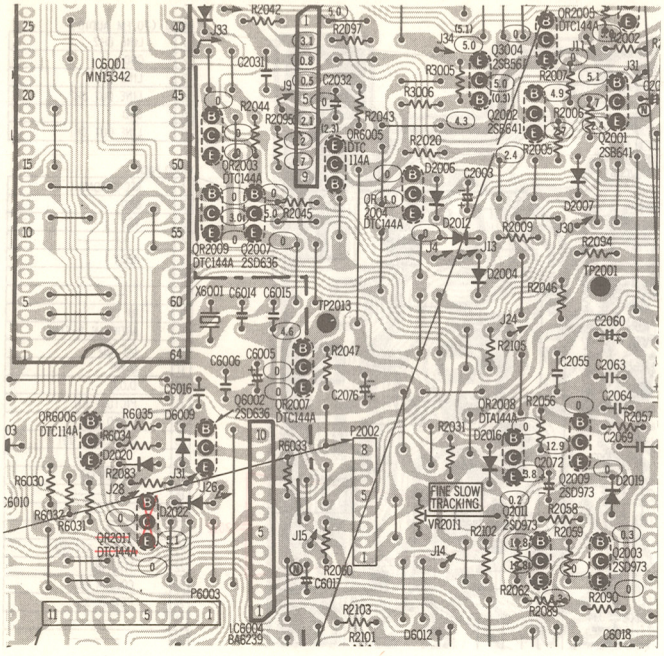
1	A-HEAD (R)
2	A-HEAD (W)
3	GND
4	A-ERASE
5	CTL H

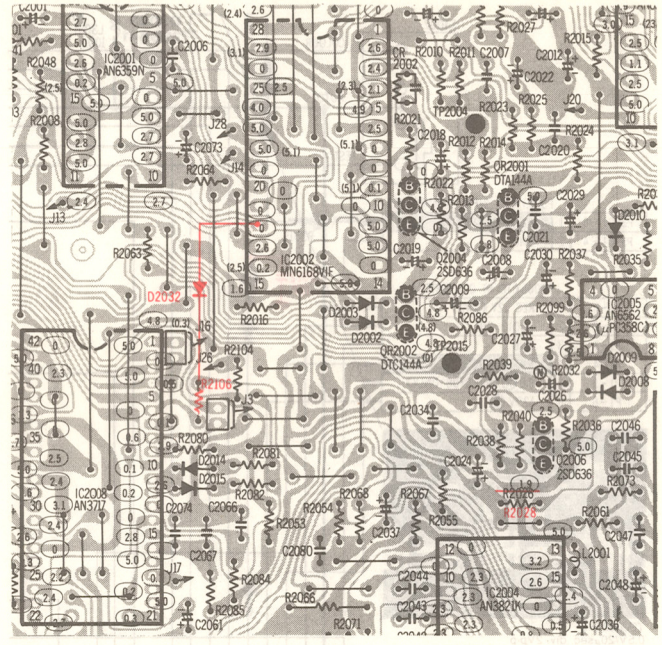


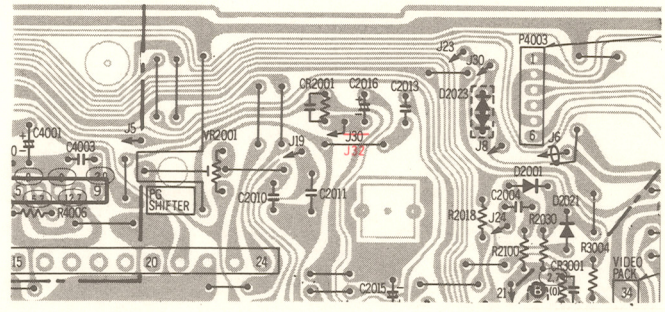


SERVO

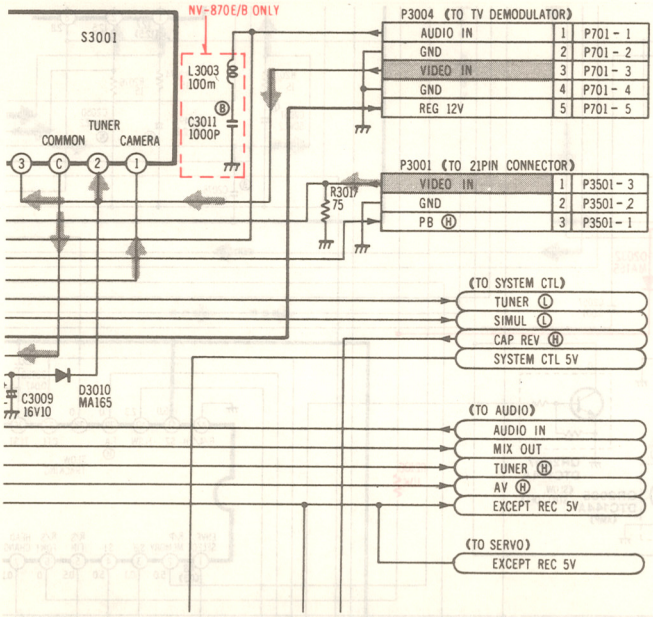

IC2007 BA236 (X-VALUE COMPENSATOR)
QR2001 DTA144A (CYL OFF:ON)
QR2011 DTC144A
QR2007 DTC144A (SLOW, STILL:OFF)
QR2005 DTC144A (AMP)
Q2008 2SD636 (AMP)
Q2007 2SD636 (SLOW STILL:ON)
QR2003 DTC144A (CAP REV:ON)
QR2002 DTC144A
Q2004 2SD636 (AMP)
D2032 MA165
D2023 DAP201
R2106 10K
SLOW TRACKING
REG 5V

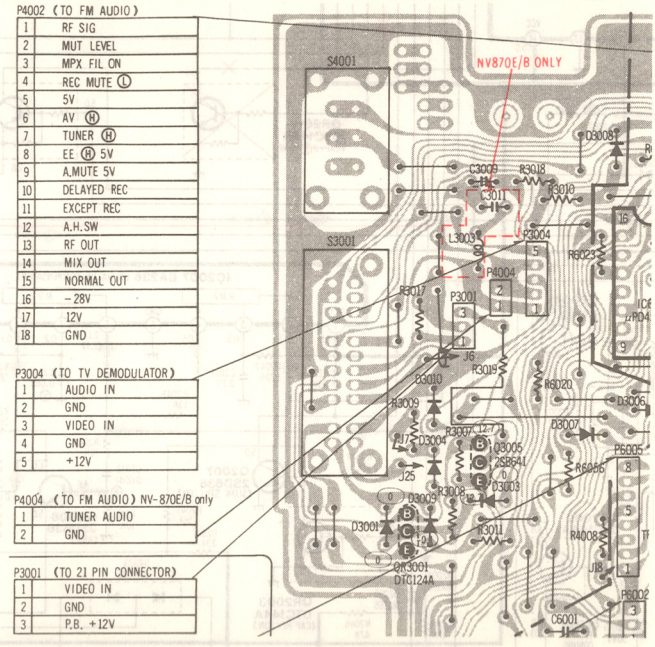

IC6001 MN15342
FINE SLOW TRACKING

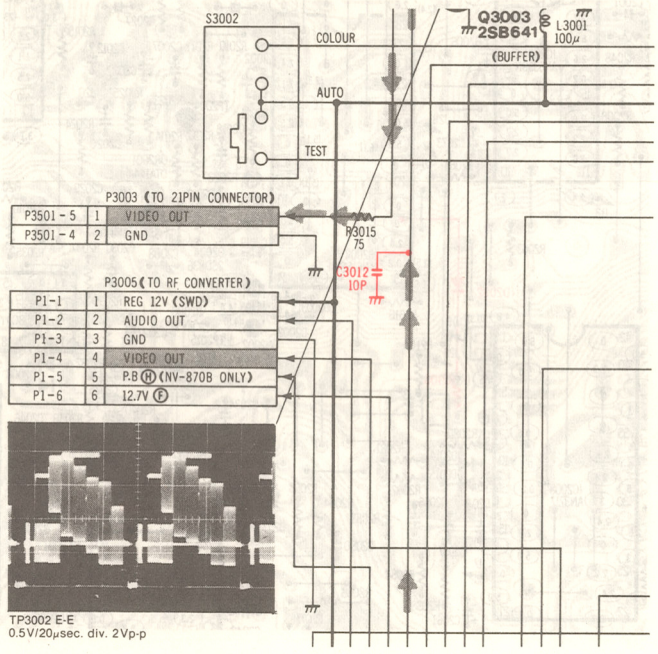

IC2001 AN6359N
IC2002 MN6168VIF
IC2008 AN3717
IC2004 AN3821K

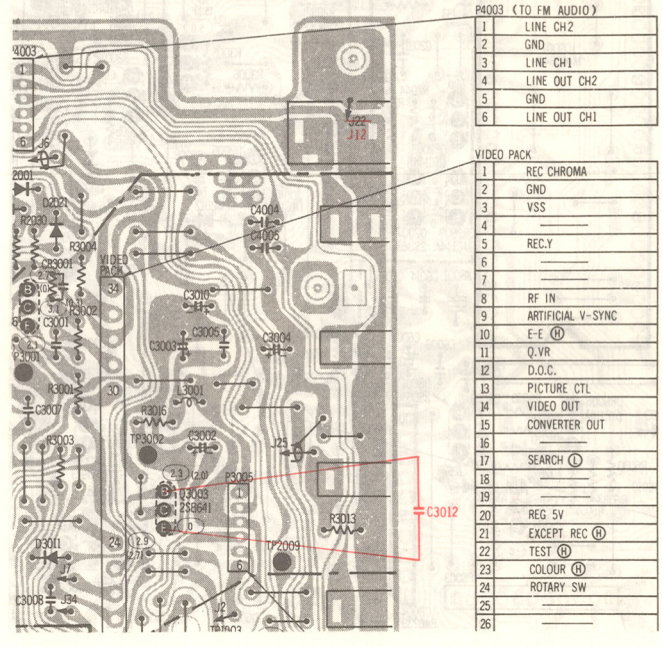

PG SHIFTER
VIDEO PACK

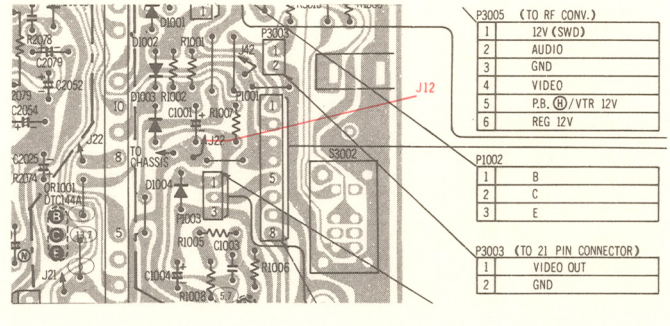
LUMINANCE & CHROMINANCE



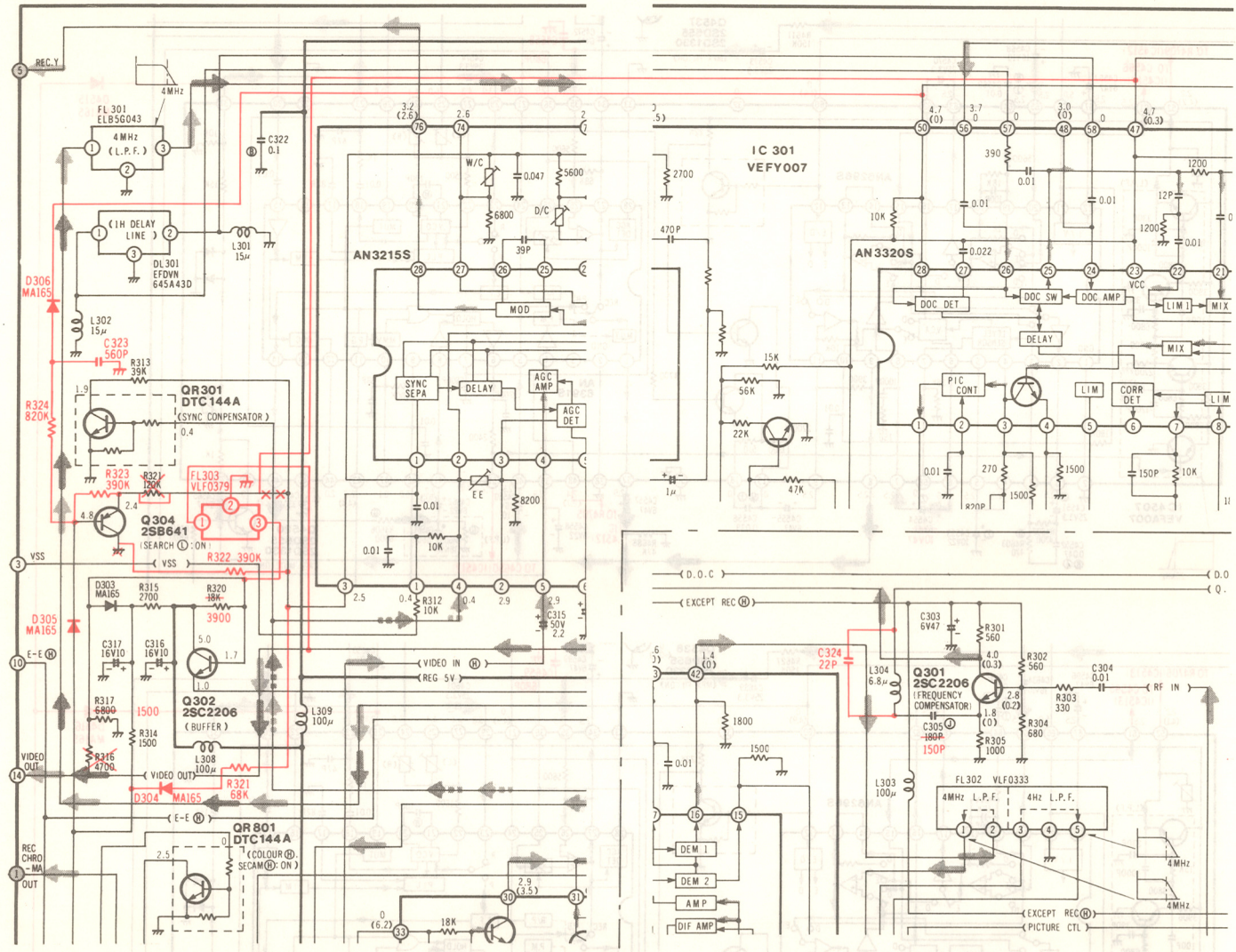


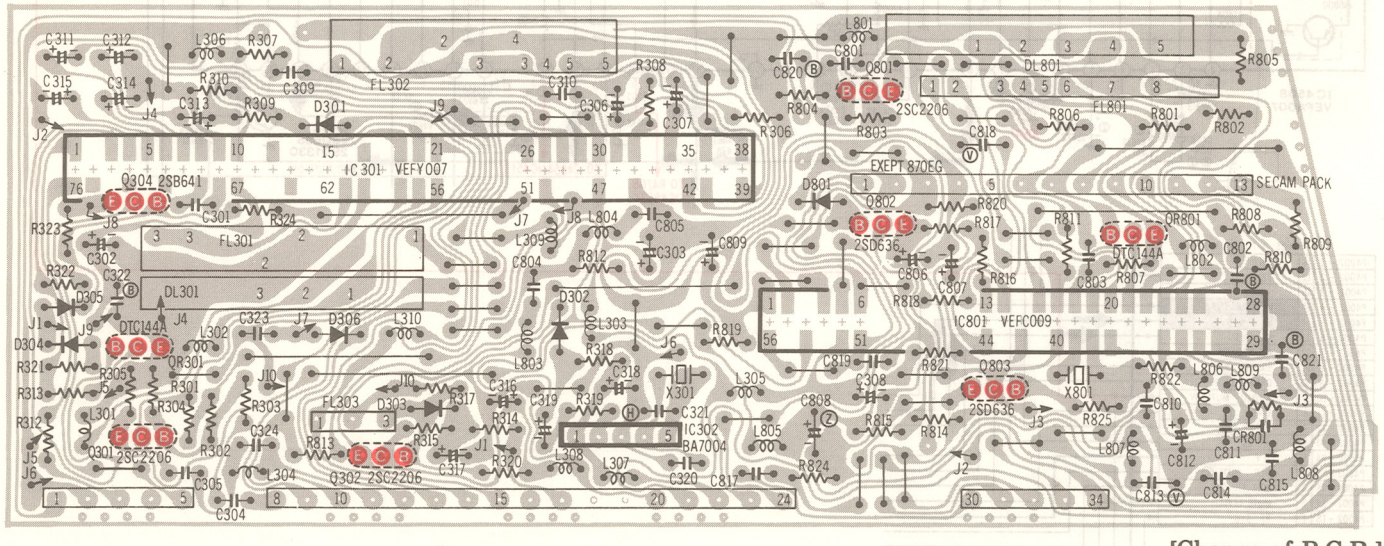






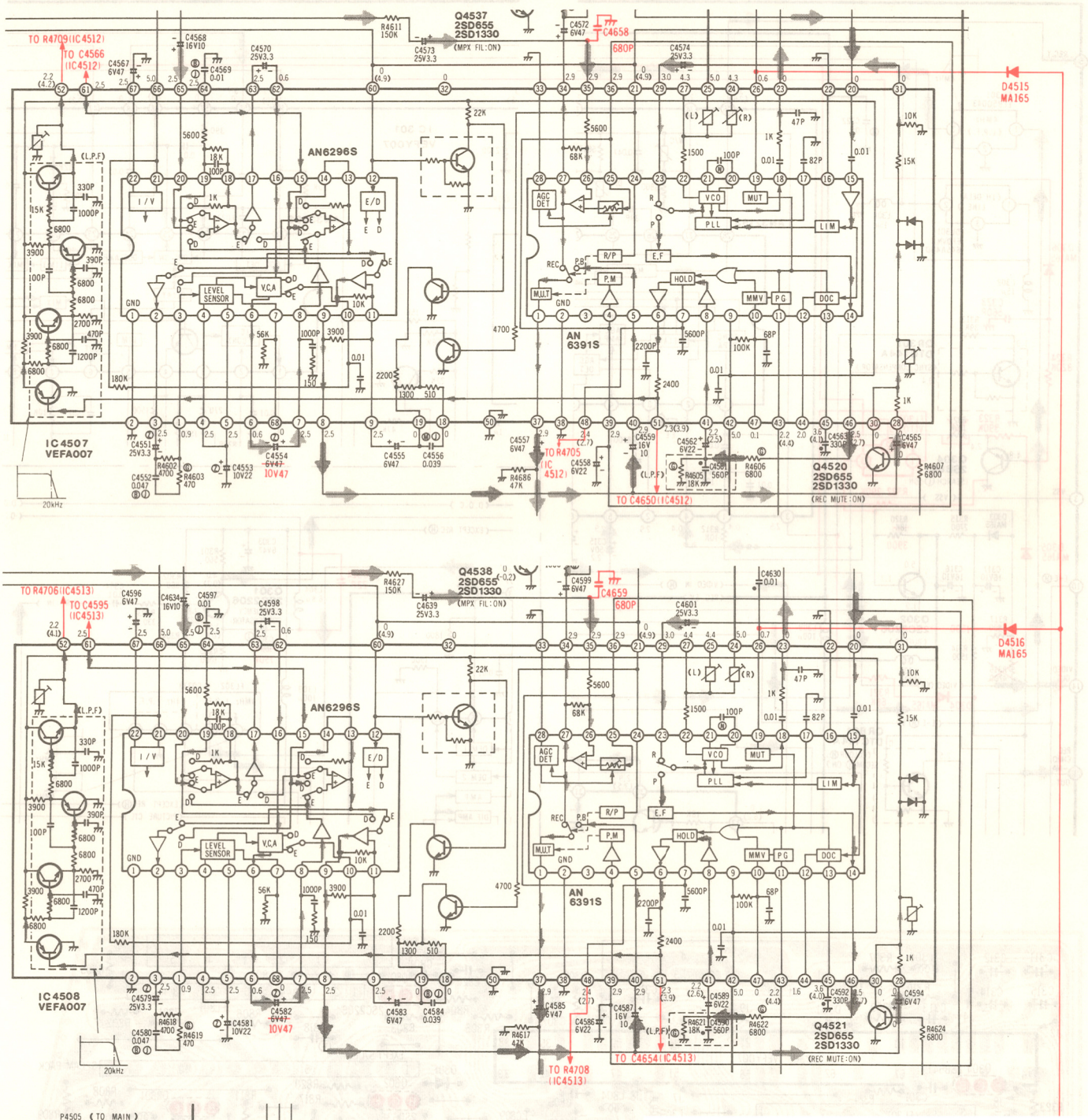
LUMINANCE & CHROMIANCE PACK



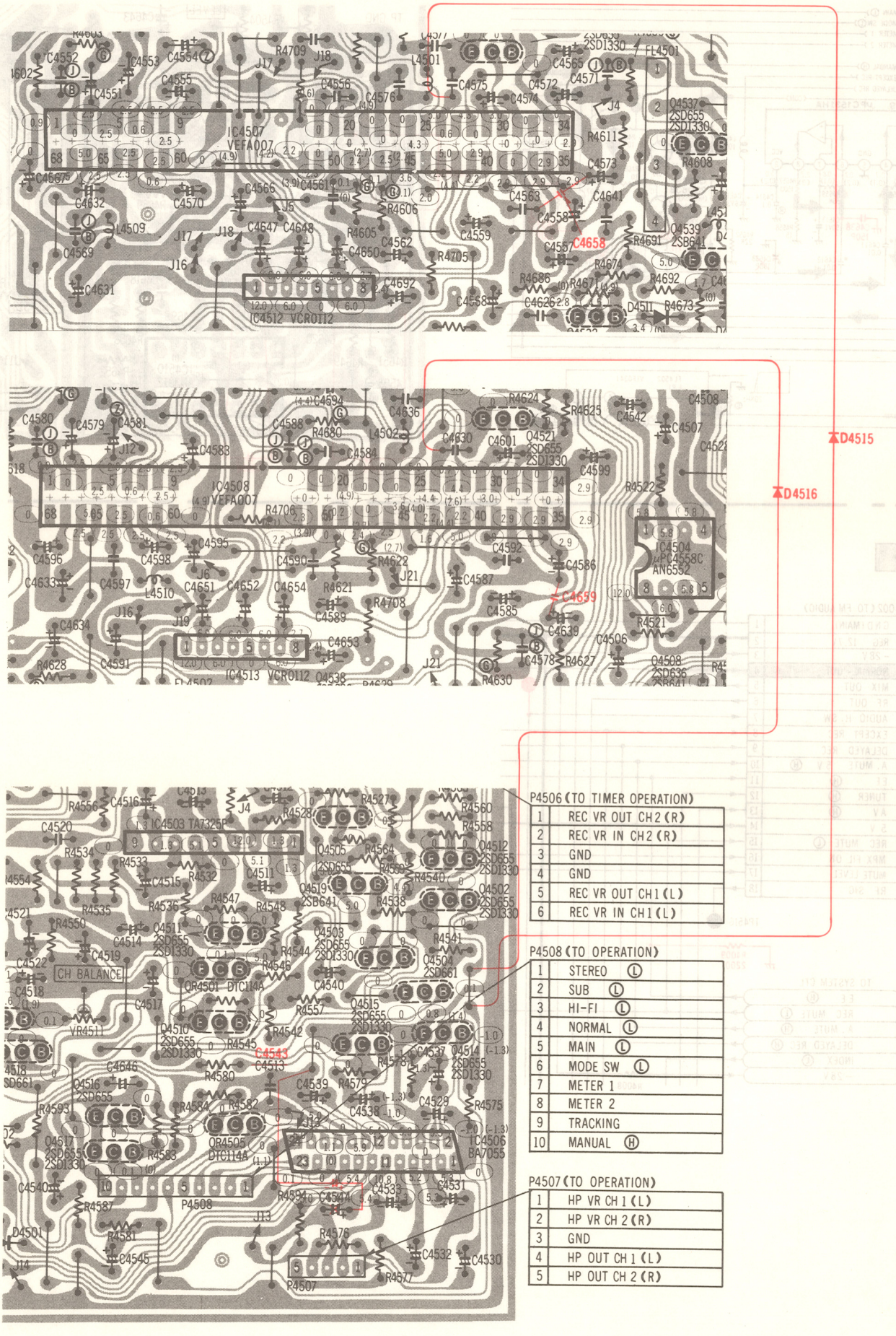


[Change of P.C.B.]

FM AUDIO



P4505 (TO MAIN)		
P4002 - 1	18	GND
P4002 - 2	17	12.7V
P4002 - 3	16	-28V
P4002 - 4	15	NORMAL OUT
P4002 - 5	14	MIX OUT
P4002 - 6	13	RF OUT
P4002 - 7	12	A. HEAD SW
P4002 - 8	11	EXCEPT REC
P4002 - 9	10	DELAYED REC
P4002 - 10	9	AUDIO MUTE 5V
P4002 - 11	8	E-E Ⓗ
P4002 - 12	7	TUNER Ⓗ
P4002 - 13	6	AV Ⓗ
P4002 - 14	5	5V
P4002 - 15	4	REC MUTE Ⓛ
P4002 - 16	3	MPX FIL ON
P4002 - 17	2	MUTE LEVEL
P4002 - 18	1	RF SIG



P4506 (TO TIMER OPERATION)

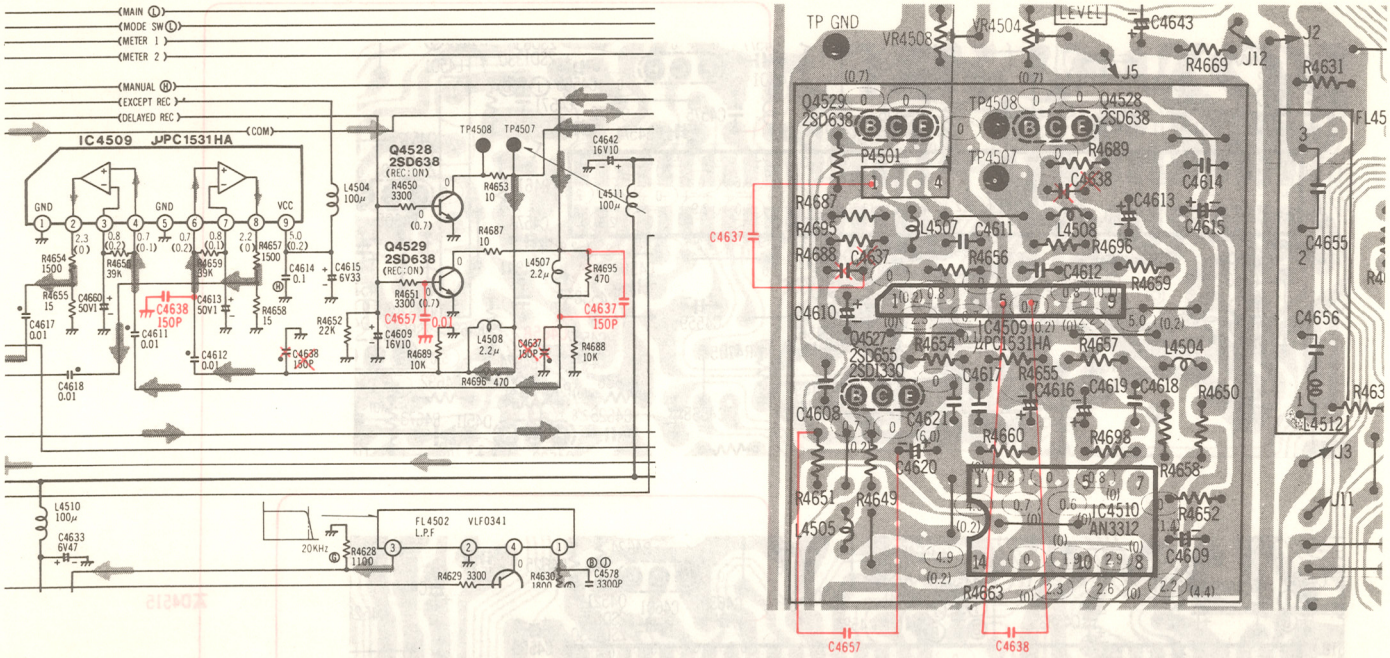
1	REC VR OUT CH2 (R)
2	REC VR IN CH2 (R)
3	GND
4	GND
5	REC VR OUT CH1 (L)
6	REC VR IN CH1 (L)

P4508 (TO OPERATION)

1	STEREO (L)
2	SUB (L)
3	HI-FI (L)
4	NORMAL (L)
5	MAIN (L)
6	MODE SW (L)
7	METER 1
8	METER 2
9	TRACKING
10	MANUAL (H)

P4507 (TO OPERATION)

1	HP VR CH1 (L)
2	HP VR CH2 (R)
3	GND
4	HP OUT CH1 (L)
5	HP OUT CH2 (R)



AUDIO

P4002 (TO FM AUDIO)

P4505-18	GND (MAIN)	1
P4505-17	REG 12.7V	2
P4505-16	-28V	3
P4505-15	NORMAL OUT	4
P4505-14	MIX OUT	5
P4505-13	RF OUT	6
P4505-12	AUDIO H. SW	7
P4505-11	EXCEPT REC	8
P4505-10	DELAYED REC	9
P4505-9	A. MUTE 5V (H)	10
P4505-8	EE (H)	11
P4505-7	TUNER (H)	12
P4505-6	AV (H)	13
P4505-5	5V	14
P4505-4	REC MUTE (L)	15
P4505-3	MPX FIL ON	16
P4505-2	MUTE LEVEL	17
P4505-1	RF SIG	18

TP4510

TP4516

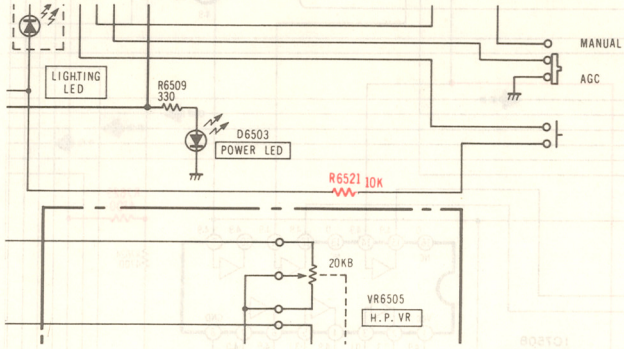
R4009 2200

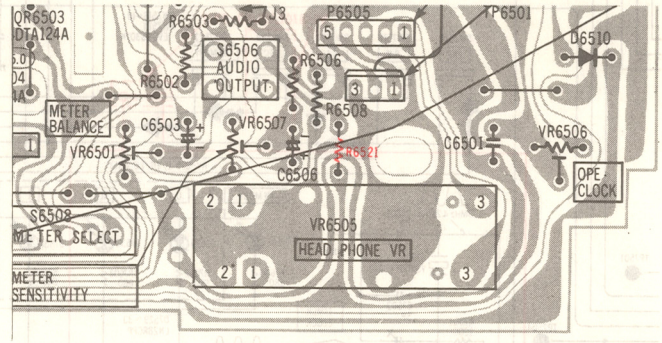
TO SYSTEM CTL

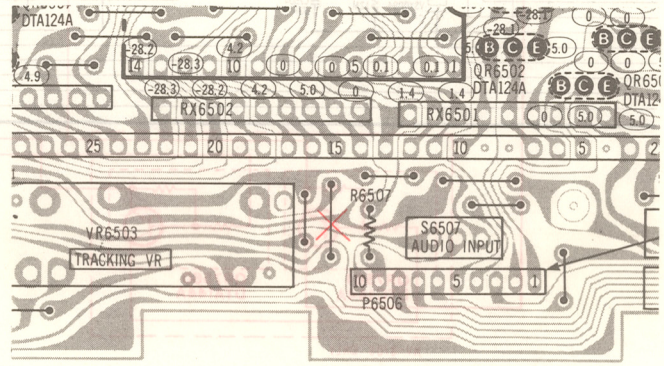
- EE (H)
- REC MUTE (L)
- A. MUTE (H)
- DELAYED REC (H)
- INDEX (L)
- -28V

R4008

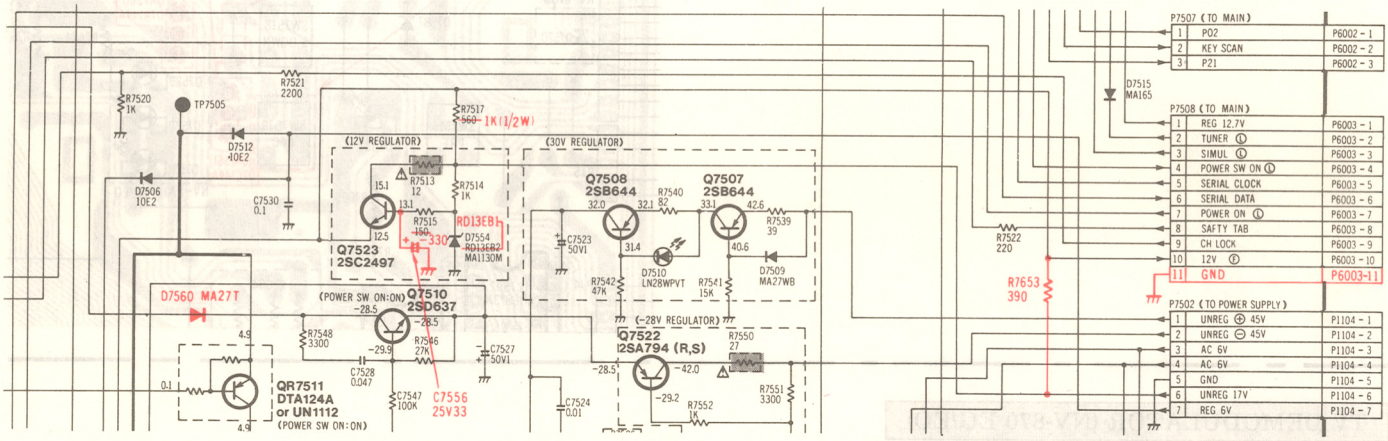
OPERATION

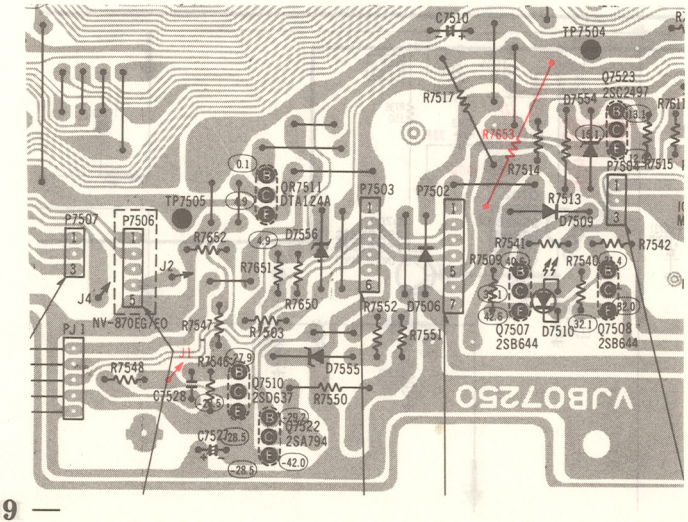


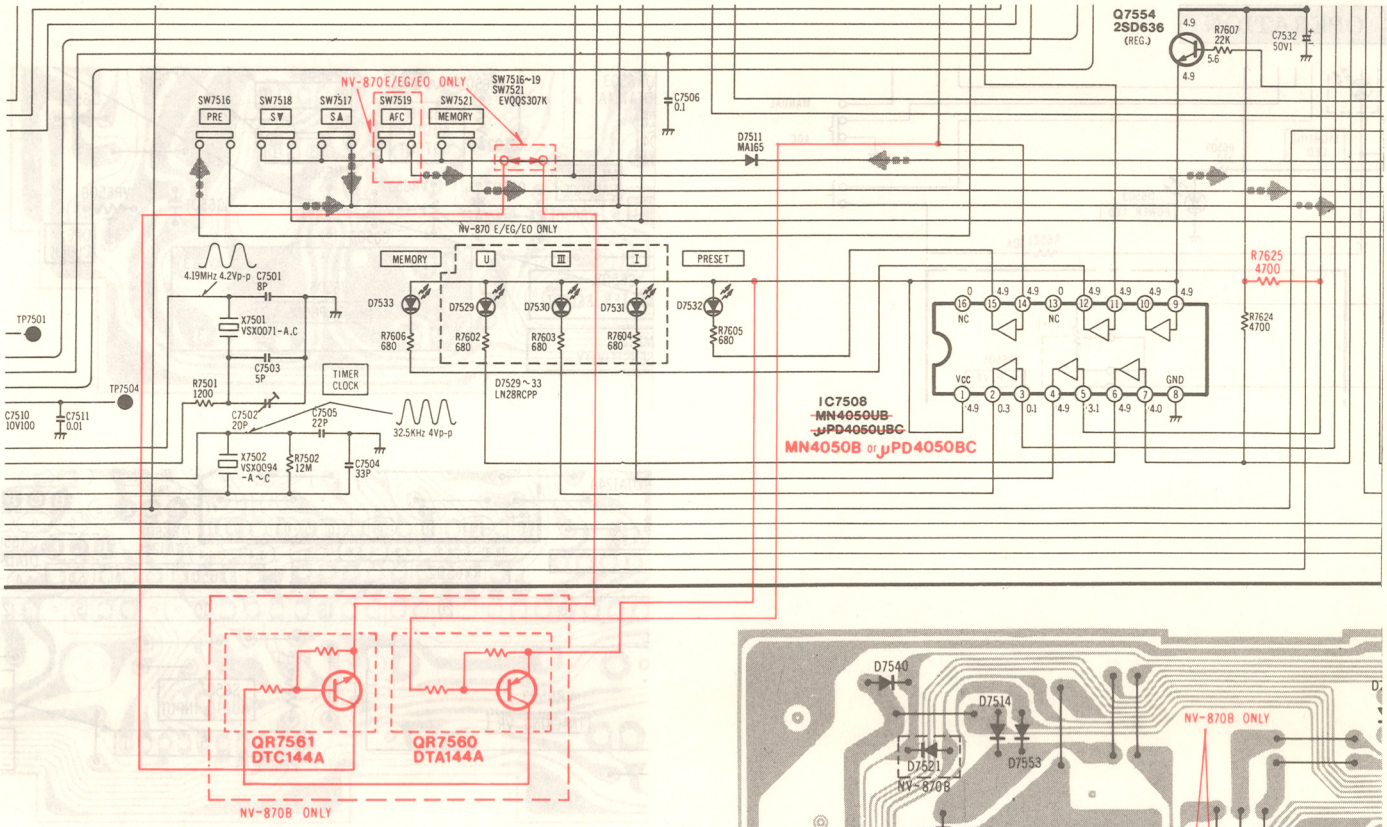


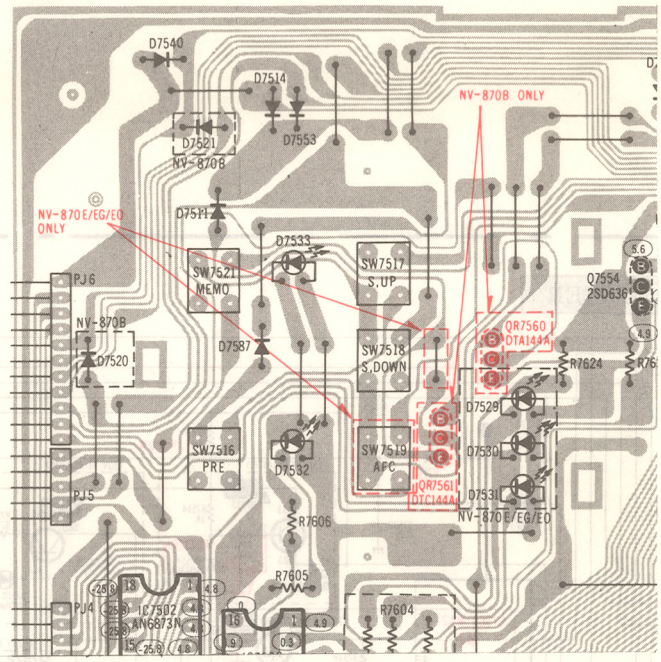


TIMER

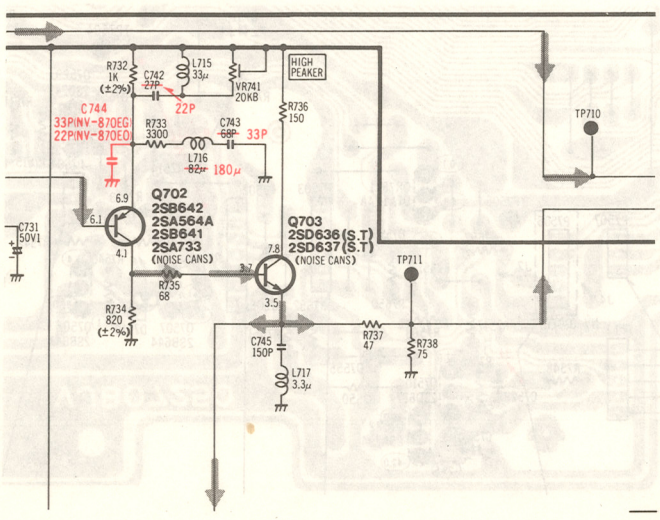


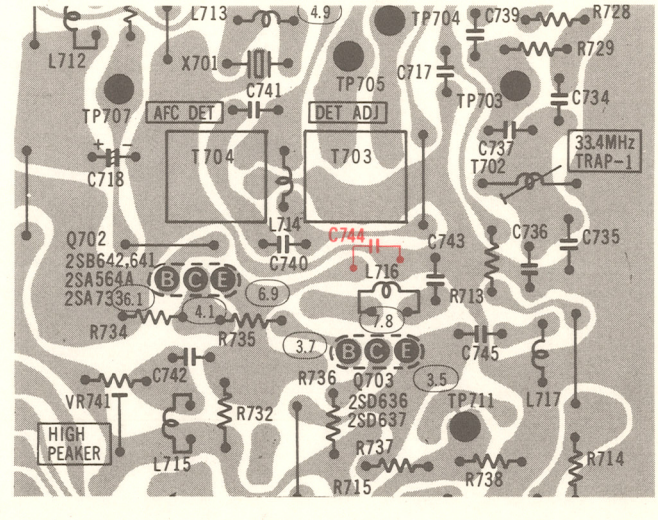






TV DEMODULATOR (NV-870 EG/EO)





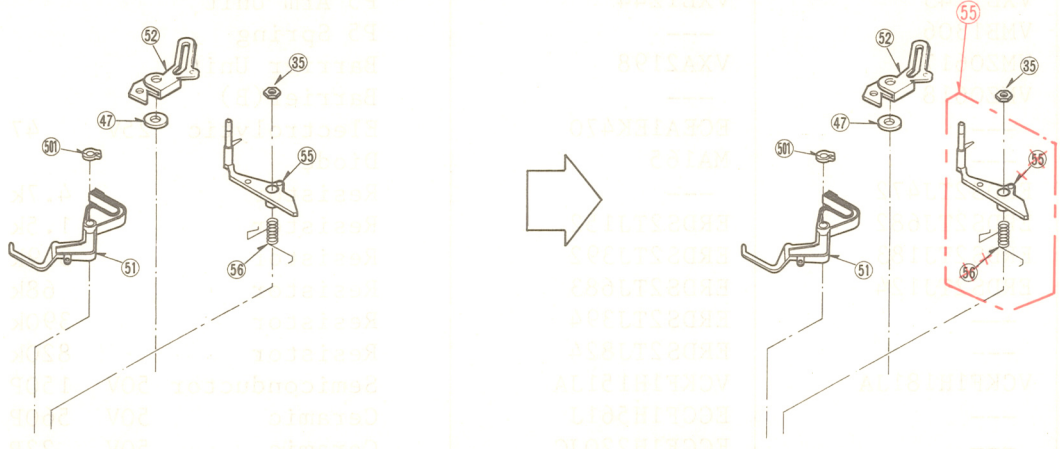
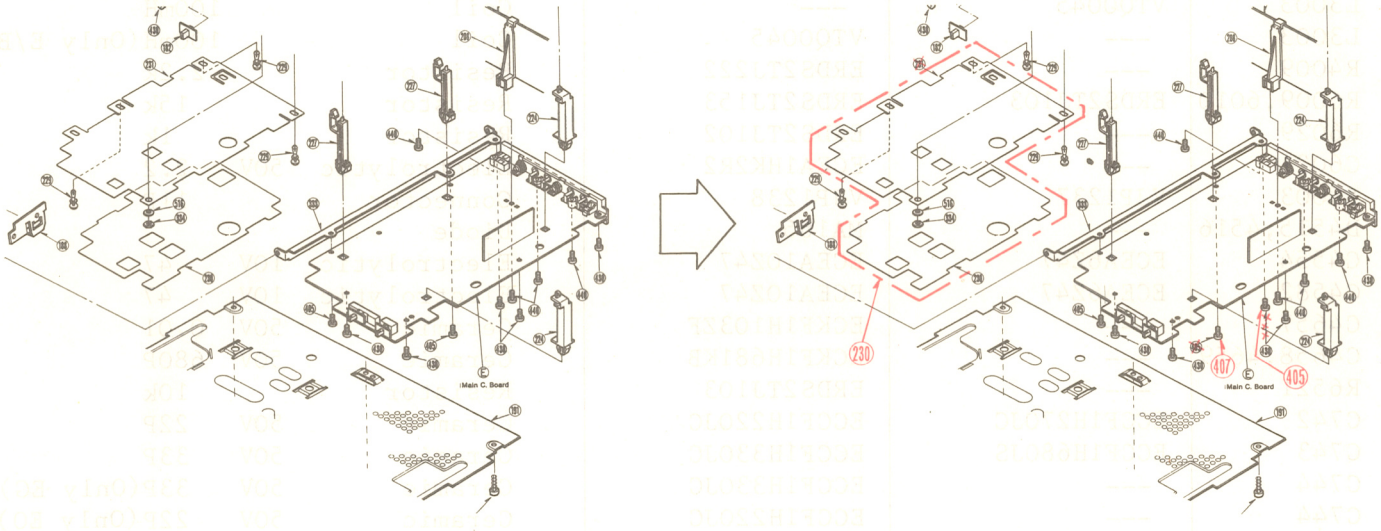
CHANGE OF PARTS LIST

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions
55(2)	VXL1243	VXL1244	P5 Arm Unit
56(2)	VMB1306	---	P5 Spring
230(5)	VMZ0617	VXA2198	Barrier Unit
231(5)	VMZ0618	---	Barrier(B)
C1111	---	ECEA1EK470	Electrolytic 25V 47
D304-306	---	MA165	Diode
R316	ERDS2TJ472	---	Resistor 4.7k
R317	ERDS2TJ682	ERDS2TJ152	Resistor 1.5k
R320	ERDS2TJ183	ERDS2TJ392	Resistor 3.9k
R321	ERDS2TJ124	ERDS2TJ683	Resistor 68k
R322,323	---	ERDS2TJ394	Resistor 390k
R324	---	ERDS2TJ824	Resistor 820k
C305	VCKF1H181JA	VCKF1H151JA	Semiconductor 50V 150P
C323	---	ECCF1H561J	Ceramic 50V 560P
C324	---	ECCF1H220JC	Ceramic 50V 22P
FL303	---	VLF0379	Filter
QR2011	DTC144A	---	Combination Parts
D2032	---	MA165	Diode
R2106	---	ERDS2TJ103	Resistor 10k
C3011	ECQB1H102JH	---	Mylar 50V 1000P
C3011	---	ECQB1H102JH	Mylar 50V 1000P(Only E/B)
C3012	---	ECCF1H100DC	Ceramic 50V 10P
L3003	VTQ0045	---	Coil 100mH
L3003	---	VTQ0045	Coil 100mH(Only E/B)
R4009	---	ERDS2TJ222	Resistor 2.2k
R6009,6010	ERDS2TJ103	ERDS2TJ153	Resistor 15k
R6029	---	ERDS2TJ102	Resistor 1k
C6021	---	ECEA1HK2R2	Electrolytic 50V 2.2
P6003	VJP1237	VJP1238	Connector 11P
D4515,4516	---	MA165	Diode
C4554	ECEA6Z47	ECEA10Z47	Electrolytic 10V 47
C4582	ECEA6Z47	ECEA10Z47	Electrolytic 10V 47
C4657	---	ECKF1H103ZF	Ceramic 50V 0.01
C4658,4659	---	ECKF1H681KB	Ceramic 50V 680P
R6521	---	ERDS2TJ103	Resistor 10k
C742	ECCF1H270JC	ECCF1H220JC	Ceramic 50V 22P
C743	ECCF1H680JS	ECCF1H330JC	Ceramic 50V 33P
C744	---	ECCF1H330JC	Ceramic 50V 33P(Only EG)
C744	---	ECCF1H220JC	Ceramic 50V 22P(Only EO)
L716	VLQEL05F820K	VLQEL05F181K	Coil 180uH
IC7508	MN4050UB or uPD4050UBC	MN4050B or uPD4050BC	Integrated Circuit
QR7560	---	DTA144A	Combination Parts(Only B)
QR7561	---	DTC144A	Combination Parts(Only B)
D7554	RD13EB2	RD13EB1	Zener Diode
D7560	---	MA27T	Diode
R7517	ERDS2TJ561	ERDS2TJ102	Resistor 1k
R7625	---	ERDS2TJ472	Resistor 4.7k
R7653	---	ERG2ANJP391	Metal Oxide 2W 390
C7556	---	ECEA1EK330	Electrolytic 25V 33
SW7519	EVQQS307K	---	Switch
SW7519	---	EVQQS307K	Switch(Only E/EG/EO)

CHANGE OF EXPLODED VIEWS

(SECTION 4)

[MOVING MECHANISM SECTION]



[CASING PARTS SECTION]